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AMERICAN SOCIETY OF CIVIL ENGINEERS.

The Eleventh Annual Convention will be held at Cleveland, Ohio, beginning June 17th, 1879.

Details of programme will be issued to members in a short time.

JOHN BOGART, Secretary.

AMERICAN INSTITUTE OF MINING ENGINEERS.

The next meeting of the Institute will be held in Pittsburg, beginning Tuesday, May 13th, at three o'clock P.M.

Members and associates are requested to give early notice to the Secretary of their intention to read papers at the meeting.

It is expected that the excursions will be of an attractive character, and that there will be a large attendance of ladies.

THOMAS M. DROWN, Secretary.

AMERICAN INSTITUTE OF MINING ENGINEERS.

PROGRAMME OF THE PITTSBURG MEETING.

Local Committee of Arrangements.—William Metcalf, Chairman.
Finance Committee.—James Park, Jr., William P. Shinn, William Metcalf.
Committee on Transportation.—William P. Shinn, F. B. Laughlin, H. E. Collins.
Committee on Refreshments.—John H. Ricketson, Thomas M. Carnegie, John L. Gill.
Committee on Directory.—William Kent.
Secretary and Treasurer.—Joseph D. Weeks.

The above Committee have adopted the following schedule :

TUESDAY—Sessions for reading and discussion of papers at 3 P.M. and 7.30 P.M.
WEDNESDAY—Boat excursion at 8.30 A.M., continuing until 6.30 P.M. During this excursion, several of the industrial works located on the river will be visited, and also the Davis Island Dam, if the stage of water permits. Evening session at 7.30.

THURSDAY—Excursion by the Allegheny Valley Railroad, from 8.30 A.M. to 4 P.M., visiting industrial works and City Water-Works located on that line of railroad. In the evening there will be a reception at the house of Mr. William P. Shinn (situated in the suburbs of the city) of the members and ladies accompanying them.

FRIDAY—Closing session from 9 to 12 A.M. Excursion by Pennsylvania Railroad and Baltimore & Ohio Railroad, from 2 to 6 P.M. In the evening there will be a subscription-dinner.

SATURDAY—Members have the choice of two excursions arranged for this day, namely, to the oil regions of Butler County, via West Pennsylvania Railroad Parker & Karns City Railroad (narrow gauge), and returning via Allegheny Valley Railroad ; or, to the coke regions in the vicinity of Connellsville via Baltimore & Ohio Railroad. Members will be returned from both these excursions in time to take the trains East and West.

Arrangements have been made with the proprietors of the Monongahela House and Seventh Avenue Hotel for reduced rates of board to members. The head-quarters of the Council of the Institute will be at the Monongahela House. The meetings of the Institute will be held at the rooms of the Western Iron and Nail Associations, No. 77 Fourth avenue. The members and associates of the Institute will be provided with badges by the Committee of Arrangements. The local members will be designated by a blue ribbon attached to the metal badge ; the active members of the Committee of Arrangements will be designated by a red ribbon attached to the metal badge. Arrangements will be made for ladies accompanying the members to participate in all the excursions.

The following papers have been announced : Fire-brick Stoves, by J. M. Hartman, Philadelphia ; Hygiene of Mines, by Dr. R. W. Raymond, New York City ; Catalan Forges of Northern New York, by Prof. Thomas Egleston, New York City ; The Classification of the Original Rocks, by Thomas Macfarlane, Wyandotte, Mich. ; A Combined Cylindrical Shader and Section Liner, by Prof. J. H. Harden, Philadelphia ; A New Revolving Spiral Screen, by Prof. J. H. Harden ; The Geologic Age of the Oil Sands, by H. Martyn Chance, Philadelphia ; Petroleum and Artesian Wells, by C. Henry Roney, Philadelphia ; Phosphorus in Bituminous Coal, by Andrew S. McCreath, Harrisburg, Pa. The discussion of Dr. Dudley's papers on Steel Rails, begun at the Baltimore meeting, will be continued at this meeting. At the request of the resident members in Pittsburg, Mr. William P. Shinn has prepared a paper on Statistics of Pittsburg Manufactures.

Members going to the meeting from the East and North can obtain orders for excursion tickets at reduced rates over the Pennsylvania Railroad, from the undersigned. Trains leave New York at 9 A.M., 6 and 8.30 P.M. ; trains leave Philadelphia at 11.45 A.M., and 6.30, 9.10, and 11.45 P.M. The fare from New York and return will be $18.75 ; from Philadelphia and return, $15. THOMAS M. DROWN, Secretary.

LAFAYETTE COLLEGE, EASTON, PA., April 30, 1879.

THE FORCE OF PATENT-SURVEY LINES.

An important decision of the U. S. Supreme Court was rendered May 5th, in the case of the Flagstaff Silver Mining Company, of Utah. We quote from the New York *Times* a summary of the opinion, delivered by Justice Bradley :

"The principal question involved is whether the Flagstaff Company has a right to carry its excavations underground outside the perpendicularly-drawn side-lines of its surface location, when, by so doing, it infringes upon the rights of an adjoining claimant. With regard to the whole important question of following lodes or veins of ore below the surface, and the respective rights of contending parties in such cases, this court holds as follows : First. A location of a mining claim upon a lode or vein of ore should be laid along the same, lengthwise of its course, at or near the surface, both under the mining act of 1866 and that of 1872. Second. Each locator is entitled to follow the dip of the lode or vein to an indefinite depth, even though it carries him outside of the side-lines of the location ; but this right is based on the hypothesis that the side-lines substantially correspond with the course of the lode or vein at the surface, and that it is bounded at each end by the end-lines of the location crossing the lode or vein, and extended perpendicularly downward, and indefinitely in their own direction. Third. If a location be laid crosswise of a lode or vein, so that its greatest length crosses the same, instead of following the course thereof, it will secure only so much of the vein as it actually crosses at the surface, and the side-lines of the location will become the end-lines thereof for the purpose of defining the rights of the owners. Fourth. A location working subterraneously into the dip of the vein belonging to another locator, who is in possession of his location, is a trespasser and liable to an action for taking ore therefrom. In accordance with these principles this court holds that the Flagstaff Company is outside its rightful boundaries, and it therefore affirms the judgment of the lower court in favor of Helen Tarbet."

This decision confirms the views we have often expressed, particularly in relation to the famous Emma-Illinois case, in Utah. We shall give it more extended notice hereafter.

THE SALMON RIVER (IDAHO) EXCITEMENT VS. LEADVILLE.

The reports which come in from what is called the Yankee Fork or Salmon River Mining District, in Idaho, are of the most glowing description. The ores, for the most part silver- and gold-bearing quartz, are said to be of very high grade, and to occur in large veins. The rock, however, is generally very hard and the ore somewhat refractory, so that it will probably require the expenditure of large amounts for opening and working the mines.

A great many miners and speculators are going from Utah to this new bonanza · indeed, it is apparently much more popular among the miners

than is the famous Leadville, which attracts very little attention here. The chief use of Leadville to the mining men of the Salt Lake District seems to be in the hope that it may bring them a new railroad—the long wished-for opposition to the Union Pacific. The Atchison, Topeka & Santa Fé is looked to for this; but as the extension of that road from Leadville to this point would only be a stop in a through line aiming at some point on the coast north of the Gulf of California, if not at San Francisco itself, and as it is generally understood that Guaymas, in Mexico, is the present objective point of the A., T. & S. F. road, there seems little encouragement for the hope of the Salt Lakers. Leadville is generally supposed to be greatly overestimated, and the old vein-miners prefer Idaho or Montana or Arizona, to the deceptive bunches of a horizontal deposit—especially where lead is looked to for some of the profit. The Utah experience with lead ores has not been uniformly happy, so the gold and silver ledges of Idaho and Montana are attracting a good deal of the floating population of Utah; and from the information attainable, their mines will attract great attention in the near future.

THE UTAH LEAD PRODUCT.

The price of lead is a very important question to the Utah miners, and the recent decline in it has created quite a panic among them here. In addition to this, there has been the discovery of heavy shortages in the ores coming from one of the sampling works at Salt Lake, so that at the present moment the Utah ore market is quite demoralized, and the general tone of the citizens is despondent to a degree that even the millions of the Old Telegraph sale can scarcely enliven. The question of shortages in the ore sold from one of the sampling works here is stated to be a very serious one. It is claimed that for a long time past the furnaces have found a deficiency in their returns; but it was only recently that by re-sampling some lots of ore it was found that those received from the works of Mr. Mackintosh ran always less, and sometimes very much less, than the sample assays. The Germania Works are said to be short some 14,000 ounces; the Mingo, 4000 or 5000 ounces. The Jordan (Old Telegraph) Works and Morgan Works are also said to be short to a large amount. The discovery resulted in an agreement among the smelters not to purchase ores from any sampling works without a guarantee that the ore is correctly represented by the sample furnished, and they propose also to retain for five days 20 per cent of the price of the ore, so that if an error should be discovered it may be adjusted at once. The following is the form of guarantee proposed:

"We, —— ——, guarantee to the purchaser of the within-described ore, that said moisture is correct; that there are —— lbs. of net ore in said lot of ore; that said sample is accurate, and correctly represents the gold, silver, and lead contained in said lot of ore.

"Now, in consideration of the above guarantee, it is hereby agreed that 20 per cent of the purchase-money of said ore shall be paid by the purchaser to said —— ——, and by them retained for a period of five days after delivery of said ore to the purchaser. If, at the expiration of said five days, no error shall have been discovered, then the 20 per cent to be paid to the owner of the ore. If, however, an error should be proven to exist, then the 20 per cent to be retained by said —— —— till the matter is satisfactorily adjusted; and if the error is finally sustained, then the amount of reclamation is to be paid out of the said 20 per cent, and any balance remaining after adjustment is made to be immediately paid over to the owner of said ore. In no case shall the amount claimed exceed the said 20 per cent."

Of course, the miner objects to his money being held back; and as the offending sampler refuses to give the guarantee, the question has come to almost a deadlock, and the sudden decline in the price of lead added the last straw to the load of this already heavily-burdened industry. Hence, out of seventeen furnaces in this valley that are in working condition, but three are now in blast. The Mingo Works, with four stacks, have one running; the Telegraph Works, with five stacks, have one running; the Germania Works, with three stacks, have one running; the Morgan Works, with one stack, have none running; the Waterman Works, with two stacks, have none running; and the Chicago Works, with two stacks, have none running. Besides these, there are four stacks of the Flagstaff and two of the Saturn which have been idle now for more than a year.

It is estimated that, should the present price of lead continue, Utah will not produce, during the current year, more than one half as much as in 1878, when the product was 19,310 tons. There are two sides to nearly every question; and the other side of the ore-sampling difficulty is given by its advocates. They assert that the shortages are due to bad furnace practice, or are put forth as an excuse for reducing the price of ores, and they claim that the sampling was correct. The weight of evidence thus far is, however, with the smelters, and the fact that even works supplied with ore from their own mines are shutting down would seem sufficient proof that the smelters do not find much profit in the business at present prices for their products.

THE LAST LEADVILLE CASES.

When we say "last," we mean only the most recent. From all indications, the last litigation in Leadville is far in the future. The two cases decided by Judge HALLETT on the 23d of April were briefly mentioned in our stock report of the 26th, at which time we were in receipt of the telegram of the Superintendent of the Leadville Company, announcing a double victory for his side. The following extracts from the Denver *Tribune* give a more particular description of the issues involved:

"The controversy in the first case is between the Carbonate mine and the Little Giant mine, and in the two latter cases between the Carbonate and Etna mines. The Carbonate mine is located, as is claimed, upon the outcrop of a vein on Carbonate Hill, and the Little Giant mine is located to the east of the Carbonate location upon the same hill, while the Etna is located to the west of and adjoining the Carbonate. In the first case, the owners of the Carbonate claim that the vein exposed in the Little Giant workings is the same vein of which the Carbonate has the outcrop. The latter claims the right to follow the vein upon its dip, and asked that the owners of the Little Giant be restrained from working upon the vein so claimed pending the decision of an action of ejectment between the same parties. The Little Giant denies that it is located upon the dip of the Carbonate vein, or that the Carbonate is a vein at all. Numerous affidavits were filed in behalf of both parties, and the application was argued at length.

"His Honor, while expressing doubt as to the question whether the vein claimed by the Carbonate was shown to be continuous, deemed it best to grant a modified writ of injunction against the owners of the Little Giant pending the ejectment suit, which permits them to work and develop their claim, but enjoins them from removing or carrying away any ores until the further order of the court. * * *

"The controversy between the Etna and Carbonate claims is of a very interesting character. Both claims were located nearly at the same time, and both claim the outcrop of the vein for the first 600 feet to the north. During the summer of 1878, the owners of the Etna ran two inclines from their surface ground eastward and across the west side-line of the Carbonate, and for some distance beyond. The Leadville Company filed a bill in equity, asking that the Meyer Company be restrained from further trespasses upon the Carbonate claim. In the same case the Meyer Company, the owners of the Etna, answered the bill of the Leadville Company, and filed a cross-bill; claiming that the apex or outcrop of the vein in controversy for the northerly 600 feet is within the exterior surface boundaries of the Etna; charging the Leadville Company with extracting and converting to its own use the ores from said vein, and asking an order of the court enjoining the Leadville Company from further working thereupon, pending the determination of the action of ejection between the two companies. Both applications were heard at the same time, and the dispute was not over the right to follow the vein beyond the side-lines, but over the question as to where the outcrop was located. * * * Upon the showing made, His Honor decided that the equities were with the Leadville Company, and therefore granted an injunction against the Meyer Company according to the prayer of the complainant's bill, and denied the application of the Meyer Company for injunction against the Leadville Company. * * *

"These orders are all preliminary to the actions of ejectment before referred to, which will be tried at the ensuing term of the United States Circuit Court.

"The only point that may be considered new, and which was passed upon in the last-named controversy, was to the effect that if the owner of a mining claim containing the edge or superficial part of a vein claimed the right to follow that vein outside of his side-lines, he must establish the fact that the vein in departing from the side-lines, does so in its course downward and below a horizontal. If the vein rises upward until it reaches a point beyond the side-lines, and then goes downward, it can not be followed by the owner of the claim in which the vein follows an upward crevice. The affidavits filed on behalf of the Carbonate claim seemed to establish that to be the position of the vein within the Etna boundaries; hence the decision."

The mines in controversy are said to be among the most valuable in the district, the whole property which these suits will ultimately divide among them being appraised at not less than $2,000,000.

The point above mentioned as new is one of considerable importance. The applicable clause of Sec. 2322 of the Revised Statues is as follows:

"The locators * * * shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes, and ledges throughout their entire depth, the top or apex of which lies inside of such surface lines extended downward vertically, although such veins, lodes, or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side-lines of such surface locations."

With the remainder of the section, defining conditions of title, etc., we are not now concerned. The present question turns on the literal interpretation of the word *downward*, which Judge HALLETT has adopted as a guide. We desire to be understood as pronouncing no opinion as to the facts in this particular case. But we feel sure that under certain conceivable circumstances, the literal meaning of downward would not be its real meaning. Where the general dip of a lode is downward, a local and minor irregularity, rendering it for some distance horizontal or even turning it upward, ought not to be considered. A more serious difficulty is presented where a lode rises to a point higher than the outcrop, so that the question occurs, whether the highest point, rather than the outcrop, is not the true "top or apex," referred to in the law. Here a pretty strong argument can be made on either side. The intention of the law, as shown by the terms of earlier statutes and by the local customs of miners, apparently was to give to the locator on the outcrop the right to follow his lode "to any depth," with all its "variations"—terms which would properly include, and have in practice repeatedly included, the right to follow it up, if it should go up. Whether the more limited phraseology of the Revised Statutes, which we have quoted above, may properly be construed to mean the same thing, is for the courts to decide, upon ascertaining what was intended by the law. But it would be nothing novel or startling, should a competent authority hold that the term *downward* includes in its meaning, under certain circumstances, *upward* as well.

The use of the phrase "top or apex," instead of "outcrop," was intended merely to cover the case of so-called "blind lodes," which have no outcrops. That it should be applied to local folds, bulges, saddles, summits, and what not, on the underground dip of defined deposits having outcrops elsewhere, is a result not foreseen by the authors of the law, so far as our recollection of its origin and history goes. It would undoubtedly be a hardship to the miner, locating in good faith, to lose his title through variations of dip which he could not foresee. It is not clear that an outcrop should not be held to be in many cases the practical "top or apex" of the deposit.

The following extract from the celebrated "Eureka decision" is worthy of consideration in this connection:

"Instances without number exist where the meaning of words in a statute has been enlarged or restricted and qualified to carry out the intention of the Legislature. The inquiry, where any uncertainty exists, always is as to what the Legislature intended, and when that is ascertained, it controls. In a recent case before the Supreme Court of the United States, singing birds were held not to be live animals, within the meaning of a Revenue Act of Congress. (*Reiche* v. *Smythe*, 13 Wall., 162.) And in a previous case, arising upon the construction of the Oregon Donation Act of Congress, the term, a single man, was held to include in its meaning an unmarried woman. (*Silver* v. *Ladd*, 7 Wall., 219.) If any one will examine the two decisions, reported as they are in Wallace's Reports, he will find good reasons for both of them."

The decision of Judge HALLETT, like the literal construction on which it rests, involves another unfortunate result. If a lode, at the precise point where it passes under the side-lines of the outcrop locator, happens to have a local upward or horizontal direction, he loses his right to follow it further. But if it departs from the side-lines in a downward direction, it may subsequently go up or down as it pleases, without escaping the claim of the locator! Moreover, the local variations of dip may easily be such that in one part of the mine the lode passes under the surface side-line with a local upward dip, while at all other points the dip along that critical line is downward. Or, again, it might happen that by taking a certain width of location, the locator may unconsciously bring his side-line over a rise in the dip, and thus lose his right to follow the lode, whereas if, by luck or knowledge, he should take a narrower location, he might bring his claim within the literal terms of the statute, since his vein would "so far depart from a perpendicular *in its course downward* as to extend outside the vertical side-lines," etc. After it once got outside, it might dive or climb, as it chose. In this (not wholly imaginary) case, the locator, by claiming less on the surface, would get more underground.

To avoid such absurd results as these, it may be sufficient to recognize the principle that the general dip, not the special dip at any one place, should be the guide, and that a lode, "in its course downward," may occasionally be bent upward. But in some cases, we are inclined to believe, the literal meaning of the statute will have to be enlarged by the courts.

NEW PUBLICATIONS.

GEOLOGICAL SURVEY OF PENNSYLVANIA. VOL. F. *Report of Progress in the Juniata District of the Fossil Iron Ore Beds of Middle Pennsylvania, by* JOHN H. DEWEES, *with a Report of the Aughwick Valley and East Broad Top District, by* C. A. ASHBURNER. *Illustrated with 7 Geological Maps and 19 Sections.* Harrisburg, 1878. 8vo, 305 pages.

This is one of the most thoroughly elaborated and completely illustrated of the current publications of the Pennsylvania Survey. It is the first-fruits of a special survey of the outcrops in Pennsylvania of the well-known fossil red hematite ore-beds of Silurian age, which constitute the most extensive and persistent deposit of iron ore in the world. It belongs to the Clinton or Surgent shales, and makes its appearance in the Silurian ridges of the Appalachians, from New York, through Pennsylvania, Maryland, Virginia, and parts of Kentucky, Tennessee, and Georgia, into Alabama. The extraordinary combination of favorable geological conditions by which this iron-ore formation is brought at many points into close proximity with both coal and limestone justifies the conclusion, already confirmed in practice, that, other things being equal, this zone must be the scene of the cheapest, and hence of the most extensive, American iron industry. But other things have not been equal hitherto. Apart from the questions of transportation-facilities, etc., which embarrass new undertakings, and which have been measurably solved, there has been, since the new age of steel began, the fatal obstacle of a proportion of phosphorus in the Clinton ores, too large to permit their use in the manufacture of iron for the Bessemer or the Siemens-Martin process. They have occupied in this respect the position which belongs to the Cleveland ores in England; and the triumph recently achieved in the dephosphorization of Cleveland iron will inevitably react in favor of our great fossiliferous ore-deposits, so well adapted in other respects to sustain a prosperous industry. The appearance of this volume of the Pennsylvania reports is therefore timely, with reference to the critical condition of the iron and steel business, though tardy with reference to the period when this special survey was begun. But we have no fault to find with tardiness for which thorough excellence makes complete amends.

The district here reviewed embraces parts of Snyder, Mifflin, Juniata, and Huntingdon counties, constituting a belt about 80 miles long and 10 miles wide, and called by Prof. LESLEY the Middle Juniata Belt of Fossil Ore. It is traversed from east-northeast to west-southwest by long, slightly curved, parallel, and interlocking anticlinal mountains, which bring up the under rocks and tilt the beds of ore north and south, exposing their outcrops as closed circuits, in long, narrow ovals. Subordinate anticlinals in the intermediate valleys bring up other fossil-ore outcrops in complicated zigzags; and finally, there are between these the synclinal oval outcrops of the higher Hamilton brown hematites.

It is evident that a complete and careful instrumental survey of the stratigraphy and topography of such a region must be of the highest importance to its industrial development. The praiseworthy reconnoissance of Dr. HENDERSON, embodied in ROGERS'S report, could not be expected to satisfy fully the requirements of the case. It failed to discover many outcrops of the fossil ores, and the overlying Hamilton brown hematites; and thus fell far short of displaying the total resources of the district; while the relations of those phenomena of which it treated were necessarily, by reason of these missing links, but imperfectly explained.

The present volume performs for a limited region what will be done before long for the whole Broad Top region. Its detailed descriptions and accurate sections give guaranty of a permanently trustworthy basis for its conclusions. The different iron-ore deposits here discussed comprise:

1. The Marcellus brown hematites, in a persistent line of black slates, overlying the upper Helderberg limestone. The ore is, however, not persistent; and where it is well-developed (in Mifflin, Juniata, and Huntingdon counties), the brown hematite gives way in depth to impure carbonate, or dark pyritous clay. Lump ore is rarely obtained without washing. The following analyses of this ore are collected from different parts of the report:

	I.	II.	III.	IV.	V.	VI.	VII.
Iron	44·700	43·500	38·700	42·500	33·500	42·500	51·900
Sulphur	·008	·021	·192	·260	·734	·044	·033
Phosphorus	·165	·595	·574	·135	·110	·078	·231
Insoluble residue	19·950	19·690	6·410	3·390	18·870	23·890	8·970

I. Compact limonite, Moore ore-bank, near Lewistown. Logan Iron and Steel Co., bed 3 to 6 feet. Carbonate not reached at 82 feet depth.
II. Limonite, Squaw Hollow, 1 m. N.W. from Lewiston. Near outcrop.
III. Carbonate of same locality, in depth. Contains also alumina 2·240, lime 4·536, and mang. protox. 1·625.
IV. Carbonate, Ross ore-bank, near McVeytown, same range as I.
V. Same mine, solid mass of carbonate.
VI. Limonite, same bed. Glamorgan Iron Co.
VII. Compact limonite, Dull & Bradley, N. of McVeytown.

Many other analyses of these ores are given; but the above will suffice to show how the quality varies with the locality, and with the depth in the same locality.

2. The ore of the Corniferous shale. This is merely a decomposed shale, and presents ferruginous clay, practically worthless.

3. The ore of the Oriskany sandstone. This is usually but a ferruginous sandstone, seldom containing oxide of iron enough to be valuable, and seldom presenting such a quality combined with large quantity. It is, of course, always siliceous.

4. The ore of the Oriskany shale. This is a 30 per cent ore, seen in one place only. It comes from a bed of shale, and requires washing.

5. Lower Helderberg limestone ore. This is a brown hematite found in breaks, pockets, etc. It is apparently not important in this district.

6. Upper Clinton shale ore. This has not been found in place; but its existence has been inferred from boulders of compact, siliceous, brown hematite, supposed to come from the upper Clinton belt.

7. Sand-vein ore-bed. This is the uppermost of the true fossil group. It is sometimes a fossiliferous limestone, sometimes a lean ore, and sometimes a rich ore. Below it lies the "ore-sandstone," under which occur:

8. The Danville ore-beds. Three or four of these are inclosed in a mass of fossiliferous, argillaceous limestone, 6 to 15 ft. thick. The beds are usually 4 to 8 inches thick. Sometimes one is as thick as 3 feet, while the others thin out. The cost of mining varies with the hardness of the deposit and other local circumstances. Mr. DEWEES gives the cost in 1877 at 40 cents and upward per wagon (say 1500 lbs.) of soft or medium ore from beds 16 to 24 inches thick on convenient dips. In hard ore, more than twice as much was paid. Royalties ranged from 25 to 50 cents per ton, and the price of the hard ore, ready for shipment, was from $2 to $3, according to quality.

To these must be added the Birdeye fossil ore and the Block ore, both of which have been considerably developed by mining. We take almost at random the following analyses to represent these different fossil ores:

	I.	II.	III.	IV.	V.	VI.	VII.
Iron	26·100	46·900	50·800	27·250	45·125	50·500	33·800
Sulphur	·051	·005	Trace.	Trace.	·015	·024	·004
Phosphorus	·544	·310	·112	·203	·407	·257	·358
Carb. lime	47·018	....	....	36·007	10·928	....	39·142
Carb. magnesia	2·240	....	....	1·180	2·497	....	2·497
Insol. residue	9·610	22·880	18·650	16·610	12·855	15·220	3·851

I. Danville beds, Logan Gap. II. Sand-vein, same place. III. Danville beds, Rockhill Gap. IV. Same, near Orbisonia. V. Birdeye, from near Smith-grove. VI. The same, 2 m. N. of Frieburg. VII. Danville beds. Hard fossil ore. Union Furnace Co., near Lewisburg.

The foregoing data are taken from both Mr. DEWEES'S report and that of Mr. ASHBURNER on the Aughwick Valley, which forms the second part of the volume, and is accompanied with topographical and geological maps by Mr. C. E. BILLIN, and geological sections by Mr. ASHBURNER. All the maps and sections in both reports deserve the highest praise as specimens of work intelligently planned and carefully executed. We would call special attention to Mr. ASHBURNER'S isometric projection of the Three Springs fault, which is a very interesting and satisfactory graphic explanation of facts not otherwise easily grasped.

PERSONALS.

Our Readers are invited to send us Items for this Column.

Mr. A. MIDDLEBROOK, of the Curtis Saw Company, of St. Louis, an expert in all matters pertaining to saw-mill machinery, is now in Colorado

superintending the erection of several mills. Parties desiring his services may address him at Denver.

A COMMUNICATION from a Colorado correspondent, on "cross-veins," together with our comments thereupon, will necessarily be crowded out for a week or two. The subject is important; but it can wait.

THE AMERICAN IRON TRADE FOR 1878.

We have received the advance-sheets of the Annual Report of the Secretary of the American Iron and Steel Association, James M. Swank, from which it appears that in nearly all of the branches of the domestic iron and steel industries there has been an increased production in 1878 over 1877, but that this increase in production has been accompanied with a decrease in prices. At no time in the history of the country have prices for iron and steel been so low as they were in 1878, excepting, perhaps, in colonial days, when the price of pig-iron was still lower.

As to the prospects of production of pig-iron for the present year, Mr. Swank holds that, if the rate of increase be similar to that of 1878, and of this he has no doubt, the production in 1879 will equal that of either of the exceptionally productive years 1872 and 1873; while a much less rate of increase will carry the production in 1880 above 3,000,000 tons. The increased consumption of pig-iron in this country since 1876 is partly due to the growth, in the past two years, of the Bessemer branch of our steel industry, partly to the improvement in the business of the foundries and machine-shops, and only slightly to the iron-rail mills and other iron-rolling mills.

The following table gives the production of pig-iron for the seven years from 1872 to 1878 inclusive, in tons of 2000 pounds:

1872	2,854,558	1876	2,093,236
1873	2,868,278	1877	2,314,585
1874	2,689,413	1878	2,577,361
1875	2,266,581		

In marked contrast to the increase in production is the decline in prices. In 1878 they steadily fell, as they had previously since 1872. The decline from 1872 to 1878 was 64 per cent. The highest quoted price in 1872 was $53.87½; and the lowest in 1878, $16.50, in November. Since then, there has been a slight advance.

Of the total production, in 1878, of 2,577,361 net tons of pig-iron, 1,092,870 tons were made with anthracite coal; 1,191,092 tons were made with bituminous coal and coke; and 293,399 tons were made with charcoal. The production of anthracite pig-iron steadily declined from 1,369,812 net tons in 1872 to 794,578 tons in 1876; but in each of the years 1877 and 1878 there was an increase upon the production of 1876. The production of bituminous pig-iron was remarkably uniform from 1872 to 1876 at a fraction less than 1,000,000 tons annually; but in 1877 this tonnage was exceeded, and in 1878 there was a still further increase. The production of charcoal pig-iron increased from about 500,000 tons in 1872 to about 575,000 tons in each of the years 1873 and 1874; but since the latter year, it has steadily declined, until in 1878 only 293,399 tons were made. Less than fifty years ago, all the pig-iron produced in this country was wade with charcoal; in 1878, less than 12 per cent of the year's product was made with it.

The use of coke as a blast-furnace fuel has steadily increased during the past few years; but the most significant feature of this increase is the invasion by coke of districts heretofore exclusively appropriated by anthracite coal. Connellsville coke is now used in some furnaces in New York, New Jersey, Eastern Pennsylvania, and Maryland; but in every instance as a mixture with anthracite. The furnaces which use this mixture we have classed as anthracite furnaces.

The States which increased their production of pig-iron in 1878 were Vermont, Connecticut, New York, New Jersey, Pennsylvania, Virginia, Georgia, Alabama, West Virginia, Kentucky, Tennessee, Ohio, Illinois, Wisconsin, and Oregon. Those which decreased their production were Maine, Massachusetts, Maryland, Michigan, and Missouri. North Carolina, Texas, and Indiana made pig-iron in 1877, but made none in 1878. None of the territories made any pig-iron in 1877 or 1878. The increased production in 1878 over 1877 was 262,776 net tons, and of this increase the share of Pennsylvania was 189,277 tons, or 72 per cent. Ohio increased her production in 1878 over 1877 only about 20,000 tons. Of the total product of 2,577,361 tons in 1878, Pennsylvania made 1,342,633 tons, or just 52 per cent. This State has but once exceeded her production of pig-iron in 1878; this was done in 1872, when 1,401,497 tons were made.

Of the three States which made pig-iron in 1877 and made none in 1878, the case of Indiana is remarkable. Until recently, this State had eight furnaces, and it produced 39,221 tons of pig-iron in 1872, falling to 15,460 tons in 1877. In 1877, the demolition of some of these furnaces commenced, and in 1878 it was continued, and is to be still further continued during the present year. In 1874, and again in 1876, there were twenty-three States and the Territory of Utah engaged in the production of pig-iron; in 1877, Oregon and Utah made no pig-iron; and in 1878, Texas, North Carolina, Indiana, and Utah made none. Only twenty States, therefore, made pig-iron in 1878. No new iron-making territory has been developed during the past few years, except the Hocking Valley, in Ohio.

More furnaces are being abandoned than are building, from which it follows that the number of blast-furnaces in the United States is now decreasing. The following figures, giving the number of completed furnaces at the close of each of the last seven years, will show this:

1872	612	1876	712
1873	657	1877	716
1874	693	1878	692
1875	713		

The number of furnaces in blast at the close of 1878 was 265; out of blast, 427. At the close of 1877, the number in blast was 270; out of blast, 446. As the production of pig-iron was 262,776 net tons greater in 1878 than in 1877, it is clear, from a comparison of the number of furnaces in blast in each of these years, that our furnace practice greatly improved in 1878.

The production of rails of all kinds in the United States in 1878 was 882,685 net tons. This product has been but twice exceeded in the history of the country—in 1872 and 1873. The increased production in 1878 over 1877 was 117,976 tons. The product of 1878 was composed of 550,398 tons of Bessemer steel rails; 322,890 tons of iron rails, and 9397 tons of open-hearth steel rails. The production of Bessemer steel rails was 118,229 tons greater in 1878 than in 1877; while that of iron rails was 9650 tons less. Open-hearth steel rails appear in the statistics of last year's rail production for the first time. In 1879 we shall probably produce as many rails as in 1872, when we made 1,000,000 tons. The production of street rails in 1878 is included in the aggregate production for the year, and amounted to 9229 tons, of which 1717 tons were of Bessemer and open-hearth steel, and the remainder of iron.

Nineteen States and the Territory of Wyoming made rails in 1878. In 1877, Michigan dropped out of the list of rail-making States, and in 1878 Colorado entered the list. In March of that year, a mill for rerolling iron rails, which had been removed from Danville, Pa., was put in operation at Pueblo; but near near the close of the year, it was removed to Denver. A mill was commenced several years ago at Ogden City, Utah Territory, and it is now stated that it will this year be ready to reroll iron rails.

In 1878, Pennsylvania made 46 per cent of all the rails made in the United States, and Illinois made almost one half as many rails as Pennsylvania. Illinois alone made as many rails in 1878 as the whole United States made in any one year prior to 1860.

The first importation of Bessemer steel rails into this country was in 1863, when a few tons were imported from England, and $150 a ton were paid for them in gold. In 1867, when this country first began to make Bessemer steel rails to fill orders, the price of English steel rails fell in our markets to $118 in gold. As a result of the domestic competition in the manufacture of steel rails, which was established in that year, the price of these rails has since declined with great regularity, until in 1877 American Bessemer rails were sold as low as $40 a ton, with an average for the year of $45.50; while in 1878, the average fell to $42.25, which is about the price ruling at the works at the date of this report. The price of steel rails is now less than half the price of iron rails at so recent a period as 1872.

The production of all kinds of rolled iron in the United States in 1878, including iron rails, was 1,555,576 net tons, which was an increase of 78,817 tons over the production of 1877. By the term rolled iron we include (1) cut nails and spikes; (2) bar, angle, bolt, rod, skelp, and hoop iron; (3) plate and sheet iron; and (4) all sizes of iron rails. Bessemer steel rails are not classed among rolled-iron products. The production of all rolled iron, exclusive of rails, more than doubled from 1868 to 1878.

The production of bar, angle, bolt, rod, skelp, and hoop iron in 1878 was 830,837 net tons, against 720,531 tons in 1877, 668,956 tons in 1876, 668,755 tons in 1875, 687,650 tons in 1874, and 705,964 tons in 1873. The production of plate and sheet iron in 1878, not including nail plate, was 182,042 net tons, against 182,242 tons in 1877, 165,255 tons in 1876, 192,769 tons in 1875, 176,888 tons in 1874, and 169,169 tons in 1873. The production of cut nails and spikes in 1878 was 4,396,130 kegs of 100 lbs. each, against 4,828,918 kegs in 1877, 4,157,814 kegs in 1876, 4,726,881 kegs in 1875, 4,912,180 kegs in 1874, and 4,024,704 kegs in 1873. The tonnage of rolled iron converted into cut nails and spikes in 1878 and previous years was as follows: 1878, 219,807 net tons; 1877, 241,446 tons; 1876, 207,890 tons; 1875, 236,343 tons; 1874, 245,609 tons; 1873, 201,235 tons. It will be observed that the number of kegs of cut nails and spikes manufactured in 1878 was 432,788 less than in 1877. The reduction in the product of 1878 was not caused by a decrease in demand in that year, but by overproduction in 1877.

New nail-making works have recently been established at Centralia, Ill., and at Omaha, Neb., both of which will this year make nails for the first time.

The production of crucible steel in the United States in 1878 was 42,906 net tons, against 40,430 tons in 1877. The production of blister and puddled steel, and of steel made by various minor "patented" processes, was 8556 tons in 1878, against 11,924 tons in 1877. The production of open-hearth steel in 1878 was 36,126 tons, against 25,031 tons in 1877.

The quantity of pig-iron, spiegeleisen, and ferro-manganese converted into steel by the Bessemer process in the United States in 1878 was 739,765 net tons, against 562,227 tons in 1877. The number of net tons of Bessemer steel ingots produced in 1878 was 732,226, against 560,587 tons in 1877. The number of net tons of Bessemer steel rails produced in 1878 was 550,389, against 432,169 tons in 1877. In addition to the rails produced, there were sold or worked up by the Bessemer works into other forms 73,370 net tons of ingots. There were ten Bessemer steel works in operation in 1878, the only remaining works, the Vulcan, at St. Louis, being idle. The works which were in operation used only twenty converters. Down to the close of 1878, this country had produced a total of 2,145,595 net tons of Bessemer steel rails. Of the ten Bessemer steel establishments which made steel in 1878, one is in New York, five are in Pennsylvania, one is in Ohio, and three are in Illinois.

We imported in 1878 more pig-iron, castings, and bar-iron, and more cutlery and fire-arms, than in 1877, and less of all other forms of iron and steel. No iron rails were imported in either 1877 or 1878; but in 1876 we imported 287 net tons. Of steel rails we imported 35 net tons in 1877 and 10 tons in 1878; in 1876 none were imported. Our imports of pig-iron in 1877 and 1878 consisted mainly of spiegeleisen. A table of exports shows that our exports of pig-iron in 1878 were not half so large as in 1877, and that our exports of bar-iron were less; but that our exports of boiler plate and some other iron and steel products slightly increased. The exports of iron rails increased from 7445 net tons in 1877 to 9108 tons in 1878. For the first time steel rails appear among the exports for 1878, the quantity exported being 249 net tons. There was a decline in our exports of stoves from $141,361 in 1877 to $98,837 in 1878, but an increase from 6375 to 8061 in the number of car-wheels exported. It is a curious fact that we exported more car-wheels in 1873 than in any succeeding year, the number in that year reaching 12,274. The exports of locomotives increased from 64 in 1877 to 82 in 1878, and there was also a large increase in the exports of stationary engines and boilers. Our exports of nails and spikes fell from 4932 net tons in 1877 to 4840 tons in 1878. Of cutlery we exported to the value of $42,086 in 1877 and $60,231 in 1878; but our exports of edge tools and files and saws declined slightly in 1878 as compared with 1877. Our exports of fire-arms, which had risen to $5,652,141 in 1877, in consequence of the war between Turkey and Russia, fell to $1,825,279 in 1878. Take them all in all, our exports of iron and steel and

manufactures thereof have not in late years been so large as could have been wished, or has been represented. A study of the details will serve to dispel much misapprehension which exists on this subject, while it should serve also to stimulate our manufacturers to redouble their efforts to secure foreign markets for such of our iron and steel products as can be profitably sold in competition with like products of foreign manufacture.

THE MILLS OF GILPIN COUNTY, COLO.

The stamp-mills now running in Gilpin County are as follows:

Bobtail	75	Bobtail (upper mill)	20
Randolph	50	New York & Colorado	40
Miller & Richman	50	Briggs (double issue)	50
Kelty	32	Tucker, Russell Gulch	32
Polar Star	40	Kansas-Monmouth	52
Humphrey Concentration Works (double issue)	20	Lewis & Aulsebrook	25
Wheeler	25	Mackey (two mills)	37
Mellor	25	Waterman, Eureka Gulch	20
Fullerton	25	Hendrie, McFarlane & Co., at Independence District	15
Bostwick & Wheeler	25		
Total number of stamps			658

There are several other mills, not enumerated above, not now running. A company of Gilpin County capitalists is erecting a 50-stamp mill in the lower portion of Black Hawk, which will be in operation by the 1st of June.

The changes in the construction of stamp-mills, and the improvements in the methods of treatment within the last twelve years, have been numerous and important in results, but not radical in character. Mortars are made "closer," with less waste around and between the stamp-heads. Mortar-bottoms are made thicker, being five or six inches under the dies. Stamp-heads are made eight inches in diameter. Tappets are generally movable on the stems (fastened by screw and key or other device), some of the best mill men preferring and now using fixed tappets, effecting the necessary uniformity of drop by changing shoes and dies. The cams in use have a great variety of curvature. The involute in the curve is in use at the 75-stamp mill of the Black Hawk Gold Mining Company in Black Hawk, and is considered by many mill men as being the only curve that answers all required conditions. Iron guides to stamp-stems have gone out of use, wooden guides being more cheaply constructed and adjusted. Screens are made of Russia iron, punched by machine, with seven or eight slots per square inch, the slots being about half an inch long and of the fineness of a sixty-mesh sieve. All the mills in this county have single issue, excepting that of the Briggs Brothers. Twenty-five stamps of this mill are fed by Hendy's automatic ore-feeders, which give general satisfaction. These successful and experienced mine and mill operators commend the double-issue mill as crushing more and amalgamating an equally high percentage; but the plan has not been generally adopted.

The Polar Star mill of Kimber, Fullerton & Co., at Black Hawk, has Chilian mills at the foot of the tables, regrinding the pulp and passing it over other copper tables, with good results; on some ores amounting to $1 per ton with slight cost. Blanket sluices below the tables, with pans for regrinding and amalgamating the blanket washings, are found in several mills, and several have small "miniature" pans for grinding the amalgam, a decided convenience in cleaning large lots. Tailings are generally buddled by hand, only one mechanical buddle—that in the Briggs mill—being now in use. The concentrated product is sold to the smelting works, and upon some ores makes no inconsiderable addition to the stamp-mill product. The chemical chiefly used on the amalgamating coppers is the cyanide of potassium, although aqua ammonia and other things are used under certain circumstances. The improvement in the care of coppers is in the direction of using less chemicals than formerly, rather than more. Great care is taken to clean the whole surface of the copper, leaving no spots of hard amalgam. The improvements in the stamp-mill and methods of operation do not make much of a showing on paper; but such mechanical changes as have been made, and the greater care observed, have increased the yield upon the same ore at least 25 per cent.

Below is given the product of two custom mills, which will give a comprehensive idea of the average yields of Gilpin County gold ores:

For the first quarter in the present year, the Randolph 50-stamp mill, below the Black Hawk, crushed 449½ cords of ore, which yielded 1996½ ounces of gold, representing a currency valuation of $31,944—an average of $4\frac{43}{100}$ ounces gold per cord. When it is taken into consideration that for the most part the ore treated was miscellaneous lots, this is a splendid average.

Lewis & Aulsebrook, lessees of the Whitcomb 25-stamp mill, Nevadaville, during the first three months in 1879 crushed 208 cords of custom ore, yielding 678½ ounces gold. Rating gold at $16 per ounce, this would give a currency valuation of $10,956. The average yield of the ore was $3\frac{84}{100}$ ounces per cord. During this period, there were times when the full capacity of the mill was not running. The general average of the ore raised and crushed in this county is above the average of the preceding year.

HUMPHREY CONCENTRATION WORKS.

These works, situate on North Clear Creek, in the upper portion of Black Hawk, have a capacity of 50 tons per day. Only a brief description of these works can be attempted. The ore is crushed by a Blake crusher and two sets of Cornish rollers. Water is admitted with the ore to prevent clogging. The ore is then automatically sampled, a very simple but perfect device. The revolving screens separate the ore into eleven sizes; after which, each size is conducted to its appropriate size of jigs, where the mineral is separated from the sand. The slimes are discharged into large funnel-shaped vats, and from thence by automatic feeders are run under stamps. The tailings from the stamp-mill are elevated and conducted to revolving tables, and treated in three grades of fineness. The work done appears to be very perfect, so far as loss of value is concerned. The manager says that with a few ores containing antimonial zinc-blende, the tailings have contained as high as $3 per ton, but usually the loss in tailings is not over 50 cents per ton. He denies that much, if any, free gold passes off with the tailings, and the loss, such as it is, is a laminated mineral of impalpable fineness. The usual proportion of concentrated material is as [illegible] to four or five of the original rock. —*Register-Call*,

THE GOLD MINES OF GILPIN COUNTY, COLO.

(*Concluded from page* 315.)

THE JONES LODE.

The Jones lode in Nevada District is operated by Steele, Richards & Penrose. The main shaft on the Phillips claims is sunk to a depth of 400 feet, the present lessees having sunk it 100 feet. At a depth of 300 feet, a level west has been driven to connect with the McGonnigal shaft, 150 feet in length, for ventilating purposes. A level east at the same depth is in a distance of 50 feet. Another level east, 60 feet below the 300-foot levels, has attained a distance of 75 feet, and another, 390 feet below the surface, is in from the shaft east 100 feet, as also one running west to its intersection with the McGonnigal shaft. At present they are back-stoping. The mill ore is running nine ounces gold per cord, the smelting iron bringing an average of $40 per ton over and above treatment at the Argo and Golden Smelting-Works.

THE M'GONNIGAL PROPERTY,

west of and adjoining the Phillips claim, is worked by the same company. The property has been explored by a main shaft 400 feet in depth, the present operators having sunk it 140 feet. Various levels have been run—one going west 110 feet at a depth of 300 feet, and one going east from the same depth to connect with the Phillips shaft. The mill ore in the last-named level, run at the Tucker mill in Nevada, yielded 17 ounces gold per cord. About a year ago, the smelting iron brought an average of $92 per ton at the smelting-works in Black Hawk. The mill ore from the west level opposite, at same depth, treated at Col. George E. Randolph's mill in Black Hawk, gave a return of 18 ounces and 15 pennyweights gold per cord, and the smelting iron from $60 to $90 per ton. Level No. 2, 400 feet below the surface, is driven to connect with one coming west from the Phillips main shaft. This level is in 100 feet, and back-stopes are being made, the crevice matter averaging three feet in width, with 12 inches of solid mineral. There are five back-stopes following the west level, with a good crevice or milling and smelting material.

BOBTAIL TUNNEL.

The location of this tunnel is in the western part of Black Hawk, its mouth being upon the main street from Central. It was commenced by an association in 1863, and was then driven 250 feet, when work was suspended for some years. The company was then reorganized, and the work placed in charge of Mr. Rogers, Superintendent of the Bobtail Gold Mining Company. It was completed to the Bobtail lode in 1872, a distance of 1150 feet from the mouth of the tunnel, and has been run upon that vein about 1000 feet. It cuts the Bobtail at a depth of 500 feet from the surface. At a distance of 574 feet from the mouth, it cuts the Fiske lode at a depth of 275 feet. The Fiske lode was extensively worked through the tunnel, but is now worked from the surface. The machinery now in use in the tunnel comprises the following:

Two double hoisting-engines, of the respective capacity of 40 and 50 horse-power; one single engine and air compressor; two Worthington compound duplex pumping-engines, of a capacity of 600 gallons per minute, with smaller pumps used in sinking.

THE BOBTAIL GOLD MINING COMPANY

owns 900 linear feet of property on the celebrated Bobtail lode, which, from its discovery in 1859 up to 1864, was worked in the irregular manner of that period. In sluicing the surface dirt, from $20 to $25 per day to the hand were realized for several months. In 1861, Messrs. Lee, Judd & Lee obtained $260 per ton for five tons of selected ore. E. J. Sweet selected twenty cubic feet of copper pyrites from Field's claim that yielded $700, or at the rate of $600 per ton.

In 1864, the lode passed into the hands of Eastern companies, and that part of the vein now best known was divided as follows: Bobtail Company, 433⅓ feet; Sterling Company, 66⅔ feet; Black Hawk Company, 72 feet; Field, 33⅓ feet; Trust Company, 66⅔ feet; Sensenderfer Company, 128 feet. These several properties were worked with more or less success for several years. No general or permanent success could be realized so long as a shaft had to be sunk upon each detached piece of property, besides supporting an independent administration. One company after another suspended operations, till, by the end of 1869, only the Bobtail Company continued in operation. The only hope of success was in consolidation. Since that date, the properties of the Sterling, Black Hawk, Trust, and Sensenderfer companies, with one hundred feet besides, consolidated with the company's property, either by purchase or stock arrangement.

The main shaft is now 400 feet below the tunnel, or 900 feet below the surface, and forms, as designed, a cage-shaft. The shaft is 8 × 16 in the clear, divided into four compartments, two for cage-ways, one bucket-way for sinking, and the remaining compartment for pump and ladder-way. Instead of two-story cages, with cars for each story, holding 16 cubic feet, as on the Comstock mine in the State of Nevada, Mr. Rogers has constructed a one-platform cage, using cars holding 32 feet, or about two tons. These cars are loaded in the level, and drawn by mules through the tunnel to the assorting floor without handling.

The machinery of the mine is all under ground, at the end of the main tunnel, over the mine. The smoke-stack is built through a shaft, and is 520 feet high, 250 feet of it being a three-foot-square brick stack, and the remainder an iron stack two and a half feet in diameter. The hoisting machinery for the cage is as substantial as wood and iron could make it. The two drums are seven feet in diameter. Upon these are wound the flat steel wire ropes, of English manufacture, three inches in width and half an inch in thickness, with breaking strain of 50 tons, which are attached to the cages. These drums are driven by spur-gear, 12 feet in diameter, and 12-inch face. The engine driving this makes direct connection, and has reversible link motion. The sinking buckets are operated with the friction-winding drum, heretofore in use, and with a three-quarter steel wire rope of American manufacture. The pump is a direct-acting steam-plunger. It has a capacity of 300 gallons per minute, and is suspended in such a way that it is raised by steam-winding machinery, when a line of blasts is to be fired, and lowered again ready for work, with only five minutes' stoppage.

The output of the mine now supplies 95 stamps, the company owning two mills, one of 20 stamps and another of 75 stamps capacity, the latter

being the largest mill in the State. The levelages are five in number, running both east and west from main shaft. The mill ore for the past three years has averaged $75 per cord, and the smelting ore has yielded $100 per ton for the same period. The annual yield is fully $200,000.

MONTANA MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

A word through your columns to the unemployed and others who are contemplating moving to Montana. Undoubtedly Montana is a great territory, both from a mineral and agricultural stand-point, and is susceptible of great future development. But now the supply of ready, willing hands exceeds the demand, and more are reaching the territory every day; while a still larger number of persons in the States are seriously considering the idea of making a home in Montana. To all such, your correspondent has a word of advice. Unless a good mechanic or farmer, stay away for the present. At Butte, the papers report more men applying for work than will be needed when every thing is running full force. Similar reports come from other parts of the territory; and, beyond all doubt, as the season advances, matters will grow worse instead of better, owing to the continual stream of arrivals. The great tide of immigration which has rushed into Colorado has had an experience which will be long remembered, and many are begging their way out again. A large number of the pilgrims will have such an experience in Montana this summer and fall. In agriculture, the outlook is not so gloomy, and many broad acres are open to settlement; but in both mineral and agricultural enterprises, some capital and much experience are essential to success. For a person who has neither, Montana is the last place in the world to come to.

Bear Gulch, 70 miles from Bozeman, is attracting some attention, and a number of rich leads are reported as having been discovered. Some fifteen or twenty have been already recorded. The United States Marshal thinks this region is on the Crow Indian Reservation; and if such is the case, the parties will all be removed.

During the month of March, the Hecla Company turned out about 160 tons base bullion, valued at $500 per ton; and 200 tons copper matte, valued at $250 per ton; making the total value of the month's run about $130,000. This run was made from the big furnace only.

For the week ending April 7th, bullion shipments from Butte amounted to 2077 lbs., worth $35,000; and for the week ending the 14th, the shipments amounted to 2016 lbs., worth $34,500.

The project of fluming the Deer Lodge River has assumed definite shape. A gentleman is now engaged in examining the river and estimating the cost of the work. Bear Mouth will be the starting-point, and the river will be worked up as far as it will pay. It will no doubt pay very handsomely, and lead to the working of all the rivers in the territory. Such an undertaking will require a large amount of capital.

The Clipper Mill, Butte, is putting in some new boilers and an additional five stamps, which will largely increase the product of the mill.

Owing to a rich strike in the Alice mine, Butte, made recently at the 300-foot level, the main shaft at that mine will immediately be sunk 250 feet deeper, or to a total depth of 550 feet from the surface. The pumps now in service are thought equal to the task that will be imposed upon them by the deepening of the shaft, although additional ones have been ordered. Messrs. Ed. Rooney & Co. have taken the contract of sinking the main shaft deeper. Three shifts are at work, four men on each; and the shaft, which is timbered with 12×12-inch timbers, is going down at the rate of three feet every twenty-four hours. The shaft is in three compartments—two, each 4×4½ feet in the clear, for the cages; the third, 4½×6 feet, for the pumps. A duplex Worthington pump, with a 10-inch water-column, will be in position and ready for use before the foot-wall is cut on the 500-foot level. The other mine-owners have been allowing the Alice Company to prospect for them, and have been watching the result very closely. What the Alice Company has found below the water-line has been so favorable that it will induce the other mine-owners to go deeper. It seems to be a pretty well-established fact, thus far, that the deeper the mines go, the better the quality of the ore.

The Burden Mill, of Divide Creek, which has been working on ore from the Gaznon mine, is to be removed, and erected at Butte immediately.

Mr. J. K. Pardee, Superintendent of the Algonquin Company, has purchased the Salmon mine from Messrs. Holland & Estell, paying therefor the handsome price of $50,000. This company contemplates the erection at once of a twenty-stamp mill, to be provided with Howell roasting furnaces. These improvements will infuse new life into the mining camp of Phillipsburg.

The Snake River mines, Idaho, still attract attention and immigration. Thousand of acres of placer lands are being taken up, while thousands of acres are still open. Paying prospects have been made along Snake River for a distance of 250 to 300 miles, and the paying ground often extends back from the river for a distance of two miles. The extent of these diggings is enormous; but their working will depend more on large outlays of capital than is ordinarily the case in placer mines, owing to the necessity of water, which, to bring upon the ground, will require long lines of ditches. The machines for saving the gold, which is found in a fine state of division, are also very expensive.

The building over the shaft of the Gregory mine, which contained the hoisting machinery, was entirely destroyed by fire recently.

TUBEROSE.

CO-OPERATIVE STORES.

It is a constant matter of wonder to the student of economics in this country that our people and working-men have made so little progress in coöperation. In England the results, even within a few years, have been remarkable. Thus, at the Leicester Congress, two years since, it was formally stated by the working-men, in tones of natural triumph, that the experiment of the "coöperative store" in Leicester had enabled them to carry on a trade of $800,000 per annum, with a net annual profit of $80,000; that they had become thereby joint proprietors of freehold property worth upward of $100,000; that many a laborer's wages had been "raised by it 2s. or 3s. a week without a strike;" and that it "alleviated more distress than any other social organization." Since 1877, this same society has divided among its members, as dividends, upward of $115,000, besides several thousand added to the capital stock. The parliamentary returns show that these coöperative societies for distribution, that is, for buying and selling provisions and dry goods, number now more than 12,000; and so successful have they been that some have been compelled to pass resolutions withdrawing from $50,000 to $100,000 of capital, which has been accumulating, and returning it to the members. A leading authority in this matter says: "A well-conducted coöperative store can offer a workman 7½ per cent rise on his wages, and that without a strike or a struggle." The returns from 65 coöperative stores, with a paid-up capital of about $780,000 and an annual business of $1,250,000, showed an annual net profit of 7½ per cent.

The shareholders, as a general thing, got 5 per cent dividend on their investment, and a large reduction on their purchases. The most remarkable instance of a coöperative store is one for a somewhat higher class, that in the Haymarket, London, of the "Civil Service Coöperative Society." This has been patronized and supported by officers in every department of the British government, whose families not only sought for articles at a lower price but of a purer quality than could be found in the ordinary shops. So successful was this association that its business has increased to over $5,000,000 per annum, and in a few years its accumulated profits amounted to over $400,000, which were ultimately distributed among the shareholders. In Manchester, a "Wholesale Coöperative Society" has been formed, which has buyers all over the world, and purchases for the smaller societies or stores throughout England. In 1877, it numbered 273,251 members, owned a capital of over $2,000,000, sold goods of the value of over $13,000,000 per annum, and made a net annual profit of over $166,000. In English coöperative production or manufacture, the results have been almost equally remarkable. The Oldham cotton mills are well known. We have not the returns for this year, but in a single mill—the Sun Mill—in 1874, the capital subscribed amounted to $375,000, and the whole plant was valued at $615,000, with over 80,000 spindles at work. The annual profits declared have ranged from 2 to 40 per cent.

Hundreds of these coöperative producing societies have been formed in every part of England in various branches of manufacture, and even agriculture. The great differences among them relate to the different modes of dividing profits, some only allowing "capital" a fixed rate, and distributing the rest with "labor," some forming of a portion an educational fund, and some dividing among employés, according to wages and salaries. They have apparently all withstood the recent financial storms, as well as individual and competitive associations. No thoughtful friend of the working classes can fail to see that the thrift, discipline, and habits of business taught them by coöperation are the greatest possible benefit to them. They grow better off under it from the constant savings it requires, and from the advantage they derive from cash purchases and wholesale business. The laborers themselves, in fact, take care of their own money, and learn by the process; they get a large part of the advantage which comes from wholesale transactions; they save the losses which arise from the credit system; they take to themselves the profits of the middlemen. To gain any thing, however, from coöperative stores, there must be the most judicious purchasing, careful handling, and exact habits of business. The learning these is alone a great blessing to a working class. Then, no one can purchase in a coöperative store without cash payments, so that all the evils of "credit" are saved to the working-man; and to derive the most profit, the laborer must have previously saved enough to have purchased a share, which at once cultivates thrift, and tends to prevent spending for liquor.

There is, too, a moral influence in the whole process, which is of much account in estimating the future progress of the working class under coöperation. One of the worst influences of trade is checked. Things are bought and sold for what they are. There is no cheating, or misrepresenting quality and value, or adulterating, or any of the usual deceptions of trade, and especially of retail trade. Coöperative distribution, far more than any branch of business under competition, approaches the Christian ideal of honesty and faithfulness, and must be a powerful means of elevating the working classes. Why do we hear of no coöperative stores in New York, and of scarce any in the United States? What leader of the working classes will become a benefactor to his kind by founding one?—*New York Times.*

A NEW ROUTE TO THE CONNELLSVILLE COAL REGION PROPOSED.—PITTSBURG, PA., May 6, 1879.—William H. Vanderbilt and party arrived here last night. Besides the Vanderbilts, there were John Newell, the Manager of the Lake Shore road, and W. L. Scott, a millionaire coke and coal man from Erie. After remaining here until noon, they left for Cleveland via the Pittsburg & Lake Erie road to attend the annual meeting of the Lake Shore road. Vanderbilt's visit here was in regard to the new Pittsburg & Lake Erie road, in which he has a heavy investment. Vanderbilt has taken great interest in this road, and he wishes to secure for it, if possible, a fair share of the coke and gas-coal trade of the Connellsville region. For this purpose, he proposes to secure either an independent line to the coke and coal fields or make connection with the Baltimore & Ohio Railroad. One or the other will undoubtedly be done, and that shortly. Should the new road enter into competition for the coke trade of the West, it will be a serious blow to the Pittsburg & Lake Erie Company, which has heretofore had a monopoly of this business. The injury to that line can be estimated by millions It is thought that a connection will be made at once with the Baltimore & Ohio Railroad at this place, and thus obviate the necessity of building a new line. The latter company has agreed to connect with the Pittsburg & Lake Erie road; and if this is carried out, the cars will cross the Monongahela on barges from the line of the Pittsburg, Baltimore & Ohio Railroad to the Lake Erie Railroad, and whether a new line is built or the connection used, the effect on that trade of the Pennsylvania Railroad will be the same. The Pittsburg & Lake Erie Company is entirely out of debt, owns its own road, has some of the heaviest Pittsburg capitalists at its back, and will give the Pennsylvania Railroad Company a good deal of trouble in case of a fight.

PROGRESS IN SCIENCE AND THE ARTS.

General Science.

A Question of Priority, on the origination of the curious and suggestive speculation concerning the compound nature of the so-called chemical elements, which has lately attracted much attention in scientific circles, from the presentation of certain experimental observations and views of Prof. J. Norman Lockyer, is raised by Prof. F. W. Clarke, of Cincinnati, in a letter to *Science News*. Prof. Clarke, as long ago as January, 1873, published in the *Popular Science Monthly* an article, entitled "Evolution and the Spectroscope," in which he announced, as we learn from the editorial comments of that journal, the hypothesis that the evolution of planets from nebulæ had been accomplished by an evolution of complex from simpler forms of matter. This hypothesis the author based entirely upon the spectroscopic evidence derived from the gradation in chemical complexity of the celestial spectra. These views are substantially those advanced by Lockyer some months later, though Professor Clarke recognizes that he (Lockyer) has decidedly advanced the inquiry from a theoretical point of view. He admits that demonstrative proof of the correctness of these views can only be attained by an absolute decomposition of the elements in the laboratory, but holds that the probability of the correctness of the hypothesis may be established on other evidence, and to a degree that shall command for it universal acceptance.

The Age of the World is the subject of a paper contributed to the Royal Society, of London, by Mr. T. Mellard Reade, in which he assigns to our earth a period of existence greatly in excess of the limits generally assigned by physicists. Basing his estimates upon the observed rate of growth of calcareous and other sedimentary formations, the materials for which are primarily furnished by the disintegration of granitic, basaltic, and other crystalline rocks, he draws the startling inference that the elimination of the sedimentary strata must have demanded (as a minimum) at least 600 millions of years. This period he divides as follows: 200 million years for the formation of the Laurentian, Cambrian, and Silurian deposits; 200 millions for the Devonian, Carboniferous, and Poikilitic systems; and an equal period for the elaboration of all the other overlying rocks. These estimates do not differ greatly from those of Büchner.

The commonly-accepted theory that the phenomenon of dew is produced by the condensation of the moisture of the air by contact with surfaces of a lower temperature, is rejected by Professor Stockbridge, of the Massachusetts Agricultural College, who defines it to be the vapor of the soil condensed by the cooler air. His views, which are scarcely of a convincing nature, will be found in brief in the (May) *Popular Science Monthly*, to which we refer our readers.

The Census of 1880.—The Secretary of the Interior has issued directions relating to the important work of taking the decennial census, which will be undertaken during the coming year. This service will be under the direction of Mr. Francis A. Walker, whose past experience and record as Superintendent render him especially well fitted to discharge the duties of the office satisfactorily. The circular issued by the Secretary states that the "census is to be taken under the direction of officers to be styled 'Supervisors of Census'—one or more for each State or Territory, and not exceeding 150 for all the States and Territories—to be appointed by the President, by and with the advice and consent of the Senate."

Cremation has just received a set-back in orthodox England, where, as we are informed, the Home Secretary has just refused to sanction the proceedings of the "Cremation Society of England" until they are approved by Parliament—a very improbable event, in view of the late record of that body on the vivisection question. English medical and legal circles are said to oppose cremation because of its obliteration of evidence as to the cause of death.

An Earthenware Vase of the Age of Bronze has lately been discovered at Corcelet, on Lake Neufchâtel, which is at the present time lower than has ever before been known. This relic of prehistoric times is specially interesting to the antiquarian from the fact that on its bottom are still plainly visible the impressions made by the fingers of the prehistoric potter in the plastic clay. The markings in question consist of impressions of the thumb and forefinger. A plaster cast was taken from them and subjected to a minute examination by their discoverer, Professor Forel, who pronounces the maker of the vase to have been a woman. The prints left by the nails are said to be perfect, indicating from their regularity, elegant convexity, and size, that their possessor must have been a woman. The theory that has lately been advanced by certain writers on the development of the useful arts, that the earliest potters were the women, would appear to have received additional confirmation from this singular discovery.

The Underground Telegraph in Germany.—In continuation of our late reference to the progress of the system of subterranean telegraphs in the German empire, we may note that an underground cable now connects the cities of Berlin, Halle, Leipsic, Cassel, Frankfort, Mayence, Mannheim, Carlsruhe, Rastadt, and Strassburg: another line connects Berlin, Magdeburg, Brunswick, Hanover, Münster, Düsseldorf, Elberfeld, and Cologne: another connects Berlin and Hamburg, with branch lines to Kiel and Cuxhaven; to Bremen and Emden, thus joining the North Sea cable communicating with England and America. The money lately voted (1,830,000 marks) by the Reichstag for the further extension of the underground telegraph, it is said, "will be employed in connecting the towns and harbors along the Baltic, and for the furtherance of commerce and coast defense." On the lines already completed, the sum of 18,000,000 marks ($4,500,000) has been expended.

The Extension of the Pneumatic Tube System, which is at present going on in this city, will, when completed, connect the offices of the *Herald*, *Times*, *Tribune*, *World*, *Sun*, and *Staats-Zeitung* with the Western Union Telegraph building. At present the W. U. Telegraph Company has two lines of pneumatic tube in operation, one to 134 Pearl street, and the other to the Stock Exchange.

The Electric Light, if our information derived from the *Scientific American* may be relied upon, is about to be tried on a large scale by the city of Cleveland. The system to be introduced is that of Brush, and we are told that the municipal authorities have concluded a contract for the lighting of a large portion of the city. The lamp-posts which are described as being very ornamental and 20 feet in height, are already erected, and the lamps, it is said, will soon be placed in position. As this will be the first effort in this country to introduce the electric light for the lighting of streets, the result of the Cleveland experiment will be awaited with much interest. Let us hope that we may be able to record better results than have been attained abroad.

The Edison Electric Light.—The *American Gas-Light Journal*, of last issue, publishes the opinion of M. Hippolyte Fontaine, Editor of *La Nature* (Paris), reviewing the merits of Mr. Edison's light as described in his French patents, and stated to be the same as the description of the invention which appeared in the New York *Herald* of April 25th. M. Fontaine's opinion is unfavorable. His criticism is summed up in the statement that Mr. Edison has committed the capital error of endeavoring to create a good machine by associating two principles which are defective, and expresses himself as of the opinion that it will give results far inferior to machines now in use. The public, which is soon to be the arbitrator of the merits of the long-promised invention, and that has expected much of Mr. Edison, will doubtless be quite indifferent to any thing but the facts afforded by a demonstration of the invention in practice, which can not now be long delayed.

Professor Newcomb's Plan for Determining the Distance of the Sun from the earth by measuring the velocity of light, which was proposed for the approval of the National Academy at its recent session in April last, and which was very favorably received by a committee appointed by the Academy to consider it, is to be carried out, an appropriation of $5000 having been obtained from Congress for that purpose.

The General Plan of the building of the National Museum, for the construction of which the last Congress voted an appropriation of $250,000, and which is designed to supplement the over-taxed capacity of the Smithsonian Institution, is that of a pavilion of one story, with brick walls and iron roof, and floor of concrete. Projections at the corners of the building will be provided and appropriated for the convenience of the officers of the Institution, for library and lecturing purposes. The building will be 301 feet square, comprising 97,000 square feet; and though not covering so much space as the well-remembered Government Building at the Centennial Exhibition, it will be capable of displaying a much larger amount of material. It is expected to be completed and ready for occupation by the spring of 1880.

The Much-Talked-of Woodruff Scientific Expedition is again the subject of newspaper comment. This time it appears the trouble is that only a few of those entered for the expedition have paid the required preliminary fee. Whether the expedition will ever be realized is still a question of doubt, for it is now definitely stated that the appointed day of sailing (May 8th) has been again deferred.

The Lick Observatory.—The question of the definite location of the observatory for which a legacy of $700,000 was provided by the late James Lick, has resolved itself into a selection of one of the three peaks of Mount Hamilton—Observatory Peak, 4302 feet high; East Peak, 4448 feet; and Middle Peak, 4318 feet. At the suggestion, it is said, of Prof. Simon Newcomb, of the U. S. Naval Observatory, to whom the question was submitted, the trustees have referred the subject of a selection to Mr. S. W. Burnham, an amateur astronomer of some distinction. So soon as this decision is announced, the work of erection will be at once proceeded with.

Concerning the Proposed World's Fair in New York in 1883, it is reported that the committee having in charge the selection of the site has selected a tract of 170 acres on Long Island Sound, extending from Port Morris to the Southern Boulevard, all of which we record for what it may be worth.

An Exhibition of Electric-Lighting Apparatus, which its managers design, if possible, to make historically illustrative of the subject, is announced by our English exchanges to be opened in Albert Hall (London) on May 7th, and to continue open for one week.

Current Scientific Literature.—The May issue of the *American Journal of Pharmacy* contains of noteworthy articles the following: Improved Distilling Apparatus (with illustration), by Joseph P. Remington; Chemical Notes, by Prof. Sadtler; Poisonous Species of *Astragalus*, by Prof. J. M. Maisch; Note on the More Accurate Estimation of Quinia in *Ferri et Quiniæ Citras*, by W. Stevenson; Note on the Cinchona Alkaloids, by Dr. O. Hesse; Fragrant Woods, by P. L. Simmonds; and the usual list of proceedings of Pharmaceutical Societies and Colleges.——The *American Pottery and Glassware Reporter* is the name of a journal devoted to the interests of the industries named in the title, of which the initial number, dated April, 1879, is before us. The head-quarters of the new monthly are in Pittsburg, and the publisher is the Journal of Industry Co.——The *Moniteur Scientifique* (Quesneville) for February contains Sir Benjamin Brodie's Chemical Calculus; a continuation of the well-known discussion between Berthelot and Pasteur; an account of Lockyer's latest discovery, and a number of chemical notes, chiefly from the *Berliner Berichte*.——The latest issue of the *Neues Jahrbuch für Mineralogie* has an abstract of Von Drasche's Geological Tour across the Island of Niphon, giving an interesting account of the occurrences of coal, copper, and petroleum. As noticed last week, the *Jahrbuch* will hereafter appear under new editorial management.

Metallurgy and Mineralogy.

Another Direct Process is reported as having demonstrated its entire practicability. The new *modus operandi* is styled the "Adams Direct Process" (from Mr. David Adams, the inventor), and the source from which our information emanates is the Cleveland *Trade Review*, which vouches for the statement that some remarkably fine specimens of iron have been produced from the ore by a process more "direct" than the "sponge" process (presumably of Blair and others), being completed in one operation after the ore is placed in the furnace, deoxidized, welded, and in shapes to be rolled into muck bars or sheets for small plates, etc. The success of the process is claimed to be due to the perfect manner in which the carbon is brought into contact with the ore to be reduced, which is effected, as nearly as we can understand the description, by

saturating the pulverized ore with a liquid paste of carbon. When this mixture is properly made, the prepared ore is molded into convenient shapes, and reduced in a special furnace. A puddler, it is claimed, can produce more iron in this way from the ore than from pig-iron in the same time. The cost of the new process is reported to be about one third less than by the method in common use.

Bernardinite, a new Mineral Resin from San Bernardino County, Cal., is described and named by J. M. Stillman, in a paper lately read before the Chemical Section of the California Academy of Sciences. It presents a light, porous, friable mass of a yellowish-white color, floating like cork upon water. Fracture, fibrous; specific gravity, 1·166; softens below 100° C., but does not fuse perfectly even at 140° C.; forms an emulsion with water by boiling; dissolves readily in alcohol or ether, and less readily in carbon disulphide. The melting-point of the portion extracted by hot alcohol was determined to be 127·9° C. Heated on platinum foil, it burns with a bright flame, with much smoke, leaving a fixed carbon residue. Heated cautiously, a portion distills over. Concentrated sulphuric acid produces a brownish-red coloration in the cold, which becomes black on heating. Caustic potassa dissolves it readily, and the solution may be diluted with water to any extent without precipitation, but is precipitated by hydrochloric acid. An elementary analysis gave the composition: C = 64·53 per cent; H = 9·20 per cent; O = 26·28 per cent. From its behavior to solvents, the author concludes it to be a resin, and to be not a simple substance, but a mixture of three or four or perhaps more ingredients.

Chemistry, Physics, and Technology.

The Generation of Sulphureted Hydrogen from a mixture of paraffine and sulphur is recommended by the *Pharm. Zeitung* as a more convenient mode of supplying this gas for laboratory uses than the common mode of decomposing iron sulphide with diluted sulphuric acid. Though it may not be quite new to many of our chemical readers, we add the following method of procedure, which is recommended: A small flask, or test tube, should be half-filled with the mixture of equal parts of sulphur and paraffine, and provided with a well-fitting cork and a suitable tube of bent glass for conducting the gas away. As soon as the mixture becomes liquid, the gas is liberally given off; but the evolution ceases immediately on the withdrawal of the lamp, and the apparatus, with its charge, may be set aside for future use. A few grams of this mixture will answer for some time.

For Utilizing Old and Waste Rubber.—Messrs. Danckwerth and Köhler have just patented the following procedure in Germany: The rubber waste is subjected to dry distillation in an iron vessel over a free fire, with the aid of superheated steam. The product, when thickened and vulcanized in the usual manner, is declared to possess all the good qualities of first-class natural rubber. It is recommended that the lighter oils that come over should be separated from the heavier products.

The Adulteration of Wax with earth-wax and the South American Carnuaba wax (a vegetable product) is now very generally practiced abroad, the amount of the adulteration being often as much as 33⅓ to 50 per cent. Prof. Wagner recommends that a suspected sample be placed in diluted alcohol of a specific gravity of 0·945, and if it sinks, that it be rejected as impure.

The Use of Brine—a simple concentrated solution of common salt—is strongly recommended by M. Mercier in the *Archives de Genève*, as an excellent substitute for alcohol for the preservation of zoölogical and botanical specimens. Besides being much cheaper than alcohol, it will evaporate neither by natural nor from surreptitious causes (as is sometimes the case with the former). For use for this purpose, the brine should have been previously boiled to expel all its air, the specimens immersed in the solution at a temperature of 80° C. (176° Fahr.), and the vessel sealed.

An Artificial Ivory is produced, according to a recently-patented procedure, by making an intimate solution of well-bleached cellulose (paper pulp) with fine glue size, adding to the mixture some alum-water, and bringing the mass in small quantities at a time, to exclude air-bubbles, into well-greased molds of the objects to be copied. When the superfluous moisture is drained off, the cast soon sets, and may be removed. It is then saturated with a mixture of melted stearine and white wax, and finally polished by brushing.

A Novelty in Glass is the production by a firm of Hanover (Germany) glass-makers, who produce what is affirmed to be a clever imitation of marble for mantles, table-tops, floor tiles, etc., and which is pronounced to be preferable to marble on account of its superior hardness.

Engineering, Mechanics, etc.

Interesting Trials of American Cement.—Some recent experiments by Mr. John C. Trautwine, C.E., on the transverse strength of the so-called "National Portland Cement," made at Kingston, Ulster County, N. Y., show, according to this high authority, that it is fully equal to that of the highest class of foreign Portlands. In a memorandum of these trials, made at our suggestion, Mr. Trautwine records that his cement was mixed with about one third its volume of water to the consistency of a moderately stiff mortar, and merely pressed moderately with the fingers into wooden molds one inch square by fourteen inches long. In about ten hours (the cement being slow-setting) the bars were removed from the molds and immersed in water, in which they remained seven days. Then, taken direct from the water, they were placed on supports 12 inches apart, in the clear, and were broken by weights gradually suspended from the center, from a wooden saddle one half inch wide lengthwise of the bars, and resting on top of each bar. The only two bars yet broken at seven days old, sustained respectively 37¼ and 46 pounds for about half a minute before yielding. Two bars, broken when 24 hours old, gave way under 10 and 12 pounds respectively. Mr. Trautwine tells us that these results exceed any which he has obtained from the most favorably-known brands of foreign cements tested under precisely similar circumstances. The temperature of the apartment and of the materials ranged during the seven days between 70° and 83° Fahrenheit. An india-rubber glove, or at least a buckskin one, is necessary for protecting the fingers from the corrosive action of the wet cement of this or any other kind. We are much gratified to learn, from such good authority, that a cement of so excellent a character is at length made in the United States, thus freeing our contractors from the necessity of importing their first-class cements from Europe. The demand for cements is extending widely, and it is a matter of considerable importance to avoid the damage that they often sustain from a sea voyage.

Mr. Trautwine has promised to furnish us the results of other trials which he is about to make, and which we shall have pleasure in laying before our readers.

A Correction.—In our late reference to the Suez Canal in this department, a Boston correspondent calls our attention to an error, which we take this opportunity of setting right. In the article in question the net yearly earnings are set down, and correctly, at 13,000,000 francs. Then follows the statement that the English purchase of 176,602 shares yields a *yearly* profit of 25,000,000 francs, which is clearly erroneous. The correct statement is, that the English purchase of 176,602 shares (at 568 francs per share) represents, at present quotations of the stock (717 francs), a profit of about 25,000,000 on the purchase. The omission of the word "yearly" will make the necessary correction, though the sentence might be more clearly worded.

THE WOODRUFF SCIENTIFIC EXPEDITION. — This project has been abandoned. Those who have paid their booking-fee to Messrs. Drexel, Morgan & Co. may withdraw their money on application.

ENGLISH CAPITAL IN AMERICAN MINES.—The London *Ironmonger* of April 26th, 1879, notes the organization of the Missouri Lead Mining and Smelting Company (Limited), capital, £90,000, in shares of £10, of which 4500 shall be preference 10 per cent shares; formed for the purpose of carrying into effect an agreement made between the Virginia Lead Mining Company to purchase or otherwise acquire and work any mines, minerals, mining rights, lands, hereditaments, and chattels in the State of Missouri, in the United States of America; also the Virginia, St. Clair, and Priory mines, and any other mines.

EXPLOSION OF GAS IN A COAL MINE.—WILKES-BARRE, PA., May 7.—At 11 o'clock last night a slight explosion of gas occurred in the Stanton shaft of the Lehigh & Wilkes-Barre Coal Company, in this city, severely burning Martin Kerrigan. Subsequently, in the night, while the men were engaged in "brushing out" an accumulation of gas in the lower vein, it came in contact with a "blower," causing a terrific explosion. A large force of men were driving a tunnel at the time, eight of whom were badly burned. The mine was set on fire by the explosion, and it attained such headway that 600 feet of solid coal was soon burning furiously. The mine is now being flooded to extinguish the flames. The injured miners are William Smith, Levi Gibbons, Sem Lloyd, John A. Davis, Richard Faull, John Richards, David Morgan, and William Watkins. It is feared that most of them can not recover. William Smith and John A. Davis died this evening.

LABOR AND WAGES.

AT HOME.

The colored firemen at Jones & Laughlins' mill, at Pittsburg, went out on a strike on the 5th inst. They have been receiving $1.40 per day, and struck for $1.50. Their places were filled, and the night turn went to work at noon.

WILKES-BARRE, PA., May 8.—Mr. Charles Parrish, President of the Lehigh & Wilkes-Barre Coal Company, states that mines Nos. 9 and 10, at Sugar Notch, which have been idle for nearly two years, will resume work to-day. The Diamond mines will start in about ten days, and thus give employment to all their men. None of the men employed at the idle mines will be kept out of work. This will be welcome intelligence to a large number of men.

TERRE HAUTE, IND., May 6.—The operators and non-union miners in Clay County so far receded from their position as to refrain from any attempt at resuming work this morning. There were no disturbances to-day, but an outbreak is expected the moment an attempt is made to resume work. Several operators are quietly engaging non-union men, to whom protection is assured. It now seems probable that resumption of work will be accomplished within a few days by concerted movements of operators.

ABROAD.

LONDON, May 8.—The Durham miners have decided, by a vote of 18,446 against 6362, in favor of the formation of a committee to meet a committee of the masters for a conference. As the votes of 20 collieries were not received within the prescribed time, they will not be counted. The above numbers, therefore, are final.

BERLIN, May 1.—The mining companies and iron works seem to anticipate a very favorable effect from the new tariff, and there is, consequently, heavy speculation in their shares. The *Frankfurter Zeitung* publishes a table of comparative prices before and since the announcement of the proposed duties. It shows that, on January 31st, Bochum cast-steel shares were 36½; on April 18th, they were 52½. Hibernia and Shamrock rose from 49 to 58; the Hoerder Foundry, from 23 to 32½; the Laura Foundry, from 62 to 72; Louise Tiefbar, from 32½ to 45; the Menden and Schwerte Works, from 54 to 67½; the Osnabrueck Steel Works, from 25 to 36, etc.

GENERAL MINING NEWS.

ARIZONA.

THE GLOBE DISTRICT.

From the *Silver Belt* of April 25th we take the following:

"Happy Jack shaft, of the Isabella group, is now down 104 feet, with the indications for finding a paying mine constantly improving.

"The Central mine is showing well. The main lode opens up 8 feet between walls, and bears metal the entire width of ledge.

"The work on the Newton mine is steadily progressing, and with very satisfactory results. The working shaft is now 14 feet deep.

"The Bohemia shaft is now down 40 feet, and the indications are that a good body of ore will soon be reached. The spar from this mine shows native silver.

"Work is being pushed on the Independence, developing good ore in the east drift.

"The gold ledges, situated eight miles from Globe and two miles from the Miami mill, are in granite, well defined, and present many indications of permanency. The walls are smooth and have a talos gouge. The average width of ore is about three feet, many, however, being much wider. Free gold is visible on the dumps."

THE TOMBSTONE DISTRICT.

The Tucson *Citizen* of April 25th says of this district:

"The mines never looked better. The Tough Nut at present has three gangs of miners at work—one at the big cross-cut, one at the west shaft, and one at the south shaft. At the cross-cut the operations are more like those of a quarry than of a mine. Great boulders and masses of ore have been quarried out for a distance of about 40 feet, commencing at the gulch and cutting into the hill in a southerly direction. The ore is divided into three classes. No ore assaying less than five hundred dollars is placed on the first-class dump, and none assaying less than two hundred on the second class. At present these classes are governed somewhat by the percentage of lead they carry. As the mill will start before the roaster is completed, all the freest milling ore will be selected and worked first, without roasting. At the west shaft no material change has been made. The ore-pile increases daily. At the old south shaft a drift has been started west. The drift is eight feet wide, all in ore, which is filled with small deposits of malleable silver. The new incline at the south shaft is down something over ninety feet, having ore on the hanging-wall most of the way down, and a fine vein in the bottom. The Lucky Cuss main shaft is down ninety odd feet. At seventy-five feet a neat incline was turned to follow the foot-wall of the vein. Plenty of fine ore is in sight. The Eagle, Sunset, Omega, Grand Dipper, Old Guard, Wedge, and other claims, have extra fine ore on exhibition. Operations at the mill-site are being pushed forward as rapidly as possible."

CALIFORNIA.

From a letter dated April 23d, written by the engineer of the Pemberton Hydraulic Mining Company, we extract as follows:

"We have had water into the claim by fixing up a line of temporary pipe which shall defer any attempt at regular working until our permanent line is constructed. The rains and bad state of the roads have delayed us a good deal. The last of the pipes will be here next Tuesday; all the grading and trestles are completed, and things have been pushed forward just as fast as possible. I have eight under-currents, ten drops of twenty feet each in our string of sluices, and every device known for saving gold."

We are indebted to the Foothill *Weekly Tidings* for the following notes regarding the operations of the mines in that region:

"Work is about to be resumed on the Last Chance mine above Washington on the Yuba River.

"Terms have been agreed upon between the New York Hill and the New Rocky Bar Mining Company, by which the drain tunnel will be continued from the ground of the former into that of the latter, which will drain the mine to a perpendicular depth of 200 feet. The drift which will be driven from the New York Hill is now close up to the Rocky Bar line, and it will not take a great while to make a connection by which the Rocky Bar water can be taken away. This will save the latter company a great deal of pumping, and will relieve it of the trouble caused by surface water in the wet seasons.

"The main shaft of the Alaska mine is being sunk deeper, under contract.

"The last clean-up of rock from the Centennial mine paid $66 per load, without the sulphurets.

"Recently $5000 were produced at a single clean-up from a mine in Little York township, being $2000 in excess of any previous clean-up.

"The Milton and the Eureka Lake gravel mining companies each had a clean-up, and though the claims are several miles apart, the result in each case was within a few cents of the same, each being $41,120.

"It is estimated by competent judges that during last week from $100,000 to $125,000 were cleaned up in the various gravel mines of Nevada County.

"The water in the shaft of the Knight of Malta mine has been lowered over 60 feet. It is expected that the water will soon be out, and a contract let to sink the main incline 100 feet deeper.

"The new shaft of the Washington is connected with the 100 level; but it will take some time to square up and timber.

"The Derbec and Pattison quartz ledge, on the South Yuba, near Washington, is 300 feet wide, and assays from the croppings give from $6 to $40 per ton.

"Very little gold is now being brought into Nevada City, owing to the large mining companies putting off their clean-ups until the end of the season.

"Blue gravel has been found on Gold Flat, near Nevada City. Mr. Talbot prospected the lead some 200 feet, and the gravel is from 2 to 6 feet deep, and rich in gold.

"Pittsburg. The 600 north stopes and drifts are yielding a large amount of good ore. The 600 north stopes are much improved and yielding finely. The 800 north drift and stope are producing a fine quality of ore, and never showed better than at present The 800 south stopes are also yielding satisfactorily. The mill is kept running up to its full capacity and doing good work.

"Very rich ore has been on exhibition at the county-seat from both the Murchie and the Merrifield mine.

"The tunnel of the Planet gravel mine is in a distance of 1712 feet. An upraise is now being made to strike gravel.

"Every thing at the Hudson mine in Pleasant Valley is running to the satisfaction of the management. Level No. 2, at a depth of 184 feet, is now in 32 feet south; the work on it all having been done within two weeks.

"It is rumored that an extensive hydraulic mine near Nevada City recently discharged a number of its white employés and put Chinese laborers in their places.

"There has been no general clear-up at the Scadden Flat mill, but the plates are showing well in amalgam.

"The Knight of Malta shaft has been relieved of its accumulated *débris*, and preparations are making for sinking the shaft 100 feet.

"A blast of 800 kegs of powder has been made at the claims of the English Company at You Bet, and an immense amount of ground broken up.

"Work has been resumed on the New Year's mine on Deer Creek, opposite the Providence claim, after a suspension of several weeks.

"The Richmond mine, near Omega, has been bonded to a San Francisco party for $10,000."

A suit has been brought in San Francisco against the Cedar Creek Gold Mining and Water Company, incorporated in England and operating in Placer County, Cal. The amount involved is $48,918, and petition has been made that certain deeds made by the company and alleged to be fraudulent shall be canceled.

The Champion and Cartwright mines, in Fresno County, have been bonded for six months at $5000.

THE INYO MINES.

The Inyo *Independent* says that the mines of Fish Springs, "which were worked preceding '70, are again reviving. The contractors on the old Westerville property, formerly called the Golden Wreath, but now known as the Ivan, have out some 25 or 30 tons awaiting the refitting of the arastras, which will probably average not less than $60 per ton. On the hill are a number of ledges once profitably mined, and doubtless work on several of them will be soon resumed. The Ivan is 'pockety,' but continuous. The incline running on the vein is to be pushed ahead 80 feet further. On the hill to the east of the road extending out across the valley is situated a series of small gold veins, one of which, known as the Long Tom, some years ago yielded considerable rich ore. The owners are about to resume work upon it, beginning in the old works at a depth of 60 feet. The ground, and almost the entire hill, it is thought, would pay well for hydraulic mining. There is a powerful stream passing which could be readily diverted for the purpose, but its use would involve the purchase of the valuable farms situated below.

"The Eureka ledge in the Crysopolis district carries an average width of 20 inches of ore, the samples on hand showing an abundance of fine, free gold.

"From reports gathered here and there, it would appear that the long-looked-for strike in the Kearsarge has been made, though the full facts have not as yet been made known to the public. The work is going on in ledge matter containing low-grade ore, progress being at the rate of five feet per twenty-four hours.

"The Ygnacio Company's shipment of ore to the New Coso furnace amounted to 10 tons, which by regular samples assayed very high.

"The entire property of the Surprise Valley M. & M. Company, at Panament, has been purchased by an entirely new company, and the mill is shortly to be started up on ores already out and in sight. The revival of business at Panament and almost all old and abandoned camps, is entirely due to the workings of the mining laws giving unpatented claims to any one having a mind to take hold of them."

COLORADO.

INTERESTING MINING SUIT.

The Denver *Tribune* of May 2d reports the following:

"In the Circuit Court of the United States, sitting at chambers yesterday, Judge Hallett passed an order in the case of the Colorado Central Mining Company vs. the Equator Mining and Smelting Company, restraining both parties to the suit from working on the ore-body in controversy, which is above the 360-foot level of the Equator, and compelling them each to give bond in the sum of $10,000 for a faithful compliance with the decree of the court in the premises. The Equator Company is allowed to continue the Bell shaft, which is sunk perpendicularly over the disputed ground, in order to prove up, and both sides are permitted to sink shafts below the 360-foot level for the same purpose. The ore streaks of the litigating parties appear to be coming together as their shafts at that point are sunk, and this concession of the court is designed for the purpose of determining their respective rights. Each of the parties to the suit is to have an inspector to visit the workings of the other once a week during the developments, so as to see what amount of ore is being taken out.

"The controversy has arisen from the fact that the Equator Company, in following the ore streak downward on its dip and on the foot-wall of the lode, has come in contact with the Colorado Central, which, in mining on the same lode, sunk perpendicular shafts and intersected the ore streak on its dip. The latter company claims the right to the ore from this point onward upon the ground that it is not on the foot-wall of the lode.

"The merits of the case will be put on trial about the first of June, and the order granted by Judge Hallett yesterday is simply preliminary, and to the end that the rights of both parties shall be preserved until a final adjudication can be reached."

LEADVILLE.

The latest great strike, also reputed to be the richest yet made in Leadville, is at Carbonate Hill, a quarter of a mile from the city limits. From a full account of this strike, published by the *Reveille*, it appears that iron was struck on the 19th ult., four months from commencement of sinking, after passing through 40 feet of boulders and sand, and 140 feet of porphyry; and two days later, hard carbonates with chlorides were found, the first assay showing 263 ounces and next 208 ounces per ton. These hard carbonates have been sunk into 2½ feet, and show a remarkable increase in richness and quantity. From a selected piece the wonderful result of 14,080 ounces per ton was obtained, of a coin value of $15,206.40. This discovery is 150 feet below the contact on which are located the Crescent, Yankee Doodle, Carbonate, and other mines.

A correspondent, writing from Tin Cup, Tin Cup District, on the 19th ult., says that a big strike has been made on Gold Hill, about half a mile south of the gulch, some of the ore running very high in silver; and that there are at present some fifty men in the gulch, and plenty more are across the range, who want to come over, but are afraid to try the snow. Some arrivals of capitalists from the East and the Pacific coast are noted. The Emma and Amboy mines on Gold Hill show a body of ore averaging 4 feet in thickness, and assaying from 40 to 190 ounces.

There are other good mines on the Hill. There is no scarcity of mine locations. The Silver Cup shows a body of mineral from 2 to 8 feet in thickness, and assaying from 30 to 120 ounces; the Golden Cup, a mineral body from 4 to 6 feet in thickness, and assaying from 211 to 1400 ounces; Tin Cup, a body of ore from 2 to 4 feet in thickness; there are from 40 to 60 tons of this ore on the dump. Two prospects have loomed up, the Ontario and the Drew, which promise to pay the owners well for their work. The veins in the Tin Cup District, which had not been half prospected owing to the snow, lie horizontally imbedded between limestone and porphyry. A town site has been located at the mouth of North Willow Creek where the road from Alpine to the Elk Mountains crosses its main branch, and another about two miles below.

Communications to the *Reveille* indicate a strong rivalry between the embryonic towns of Carbonateville and Kokomo, Summit County. The former, which has about twenty houses in course of erection, including a theater and opera-house, commands the nearest route to all the principal mines; including the Wheel of Fortune, the Robinson, the Tip Top, and the Grand Union. In Kokomo, hotels, business and dwelling houses are described as springing up as if by magic. It had been charged that the present holders of lots here had been miserably duped by speculators, but the discovery of two valuable mines in the heart of the town, one being brought to light in digging the foundation of a hotel, the sand carbonates in which run $425 in gold and about $45 in silver, had put a new face on affairs, and the whole camp was in a flutter of excitement.

The impression is that Kokomo will be *the* town of the Ten-Mile District. Machinery for two smelters were on their way, having been shipped from Pittsburg on the 15th ult. Capitalists are largely investing in houses and lots.

At Carbonateville many prospectors were "going it blind" through the snow, and successful strikes continued to be made daily. A new crevice mine, about a mile north, had been opened, and assayed 17 ounces of gold and about 30 ounces of silver.

Citizens of Carbonateville were no longer willing to sell their lots, and in every direction around paying mineral had been found. A toll-road from Georgetown would shortly be completed, and with reduced rates it was anticipated that thousands would flock in.

In a report of the Upper Gunnison Mining District, now attracting much attention from prospectors, the Denver *Tribune* says that mining has been carried on there for four years. Of the one hundred claims taken up before winter set in, the Gold Cup is the most developed. About 100 feet of work has been done on the three drifts, and a four-ton mill-run averaged 205 ounces to the ton. Thirty-five tons of the same class of ore are now on the dump awaiting shipment. The ore is hard and soft carbonates, the former being in deposit form, with a small per cent of galena, and bearing sulphates and chlorides, the soft carbonates only being in places lying between strata of lime-rock with porphyry overlying; or, as it would be termed in Leadville, the contact assaying of this ore runs 211 ounces. The value and extent of this district, as well as its proximity to the Gunnison Valley and the Elk Mountains, have induced some Denver and Leadville capitalists to start a town, to be called Hillerton, 3½ miles from the Tin Cup and Gold Hill

mines, and a mile below the fork of Willow Creek, with a view to supply the trade of this camp and tributary points.

"The diamond drill, now working on the Sheriff lode back of the Custer County Bank, has averaged thus far one and one half feet per hour, having been run the distance of 81 feet, and as soon as a suitable engineer could be obtained, the carbonate beds would be tested. Very rich assays have been lately made by assayers, but the localities have been kept secret."

CANADA.

We are indebted to the Belleville *Intelligencer* of the 2d inst. for the following notes:

"Interest in the gold-mining region of this county, which for some years past has been at rather a low ebb, was greatly revived a few days ago by the report of a rich discovery of gold in the township of Madoc.

"The Richardson mine has been rented, and it is proposed to soon begin operations for the development of the property. It is reported that a rich discovery has been made in this mine.

"The Feigel mine is being worked on lease, and said to be producing from $400 to $500 per week.

DAKOTA.

THE BLACK HILLS.

We are indebted to the *Pioneer* of April 26th for the following notes: "The most active work is going forward in the Spruce Gulch mines with promising results. The placer mines of Two-bit Gulch are showing up well. The Anchor mine, in Strawberry Gulch, has a shaft down 150 feet. At its bottom good ore is in sight, with free-bearing gold in large quantities. The company has also a tunnel in 150 feet to tap the shaft.

"The Union Hill mine shaft is down 65 feet along one wall, with cross-cut opened on the other side of the ledge, showing a large body of good milling ore.

"The Hoodoo, struck lately by the owners of the Union Hill, is perhaps the richest of recent discoveries in this region.

"The Keystone mine has a tunnel in 200 feet, with fine indications.

"The May mine has a shaft down 25 feet. A large body of rich quartz is in sight, with an abundance of ore bearing free gold.

"A tunnel in the Oro Fino mine, near the Keystone, 150 feet, has struck good ore.

"The Pennsylvania, adjoining the Anchor mine, has, we understand, been bonded to New York parties for $65,000.

"A new mining district has been discovered south of Elkhorn. The top rock is assaying from $18 to $20, with considerable silver in the quartz.

"The specimens we have seen from the different mines at Silver Creek are very rich, large, heavy, flaky gold being obtained from almost every prospect.

"In the Big Blackfoot lodes the average width of the vein is said to be about three feet, bearing quartz that will pay $25 per ton on the average. A tunnel is being run to tap one of the lodes a depth of 200 feet, of which some 30 feet is yet to be run.

"The Evangeline mill, in the Rochford District, has started up, running fifteen stamps on the Evangeline ore and five on Montana ore.

"The Stand-By mine is said to be showing a very fine class of ore from the new tunnel, and a large body of it. The ore in the old workings continues to improve, and the general aspect of the mine is very satisfactory.

"Arrangements are completed for the erection of a mill for the reduction of the ores of the Florence silver mine in the Bear Butte District.

"The north-end shaft on the Homestake No. 2 is down 140 feet. Ninety feet of the shaft is in quartz. Forty feet more is yet to be sunk.

"The miners on the Deadwood now get $3.50, Superintendent Kellogg having agreed to the request of the Miners' Union.

"The Golden Terra Extension and Gopher mines have been sold for $200,000, and 40,000 shares of the Gopher stock are to be placed on this market.

"The Cheyenne Mining Company is negotiating for the construction of an 80-stamp mill in addition to its present crushing capacity."

IDAHO.

THE SALMON RIVER GOLD MINES.

A correspondent writing to the Bodie *Standard* from Bonanza, Yankee Fork, under date of April 4th, says of these mines:

"This Yankee Fork country is situated on the western slope of the Salmon River range of mountains. It is a main tributary of the Salmon River. It is bounded on the north by Loon Creek, Prairie Basin, and Salmon City; on the east by Lost River; on the west by the Sawtooth range and the Payette and Idaho City; and on the south by the big Wood River and Comas Prairie.

"The district was struck in 1869, at the time Loon Creek was worked as placer diggings. There was never much taken out in either place, comparatively speaking.

"The Charles Dickens, the first quartz ledge discovered here, is, comparatively speaking, a gold ledge, with, however, a large percentage of silver. This is about a 6-foot vein, and its pay-streak for four feet will average $125 to the ton. This ledge lies close to the town of Bonanza, and at the mouth of Jordan Creek, which empties into Yankee Fork. Next come the General Custer and the Unknown. These two veins are nothing more nor less than one vein, a porphyry horse or belt dividing them in the center. These two claims are an immense body of free-milling ore. They seem to be the main mother vein of this section. Ore shipped out of these two claims is packed on mules and then hauled by wagon to the end of the Utah Northern Railroad, a distance of 180 miles, at an expense of $150 per ton delivered at Salt Lake City. It has netted its owners from $100 to $1200 to the ton after paying all expenses.

"The ore from the Custer and Unknown mines will average $80 to the ton, and there are thousands of tons in sight that will average this. Two men can break enough ore in a day's work to keep ten stamps going twenty-four hours. The formation and the general character of the ore resembles the Comstock. These properties lie on the southeast side of Yankee Fork Creek.

"The Gray Eagle, Centennial, Badger, Little Giant, and a number of other mines in this district are being actively prospected with the same encouraging results noted above.

"The Montana mine is located on Estis Mountain, five miles up Jordan Creek. The vein in this mine is eight feet in width and very rich. This mine is not thoroughly opened up, as it was rather late last fall that they struck on to this body of high-grade ore, by sinking a winze, and owing to the inclemency of the weather they had to shut down. They are going to resume operations again shortly, on a larger scale. Close to the Montana lie the Pioneer and the Charles Wayne veins."

NEVADA.

THE COMSTOCK.

From the mining summary in the Gold Hill *News* of April 30th we condense the following:

"During the past week, the north end has made most important demonstrations of its value. In Sierra Nevada the incline has passed from rich stringers into a solid body of quartz, all of which will pay to mill. This and the further important fact that gold largely predominates in the formation, would indicate it to be a feeder of the ore-body lying under the incline, and proves that to be both rich and deep.

"The advance in Ophir has also been based on important developments. The incline has found more promising stringers of quartz—low grade, to be sure—but they have a favorable look, a kindly nature, and a suggestive dip to the west. People are getting most anxious to know what lies below the 2300 level. It will take some time to show it up, since the 2300 station is to be opened in preference to continuing the incline at present. The 40 feet of the sump are just about completed. The station will be cut out next week.

"There are other portions of Ophir, too, which are attracting attention. A vein of good milling ore has been reached on the 2100 level, and is being followed south from the bottom of the winze down from the 2000 level. This winze cut through a vein when sunk and reached another. These stringers of rich ore are pleasant reminders of what was found running between the California and Consolidated Virginia when the Big Bonanza was traced from the latter mine to the hump which raised in the California, and just above where the greatest length and breadth of that immense ore-body were found.

"Interest still attaches also to the stopes above the 2000 level where the vein continues to widen as it is followed to the south and west.

"Along the central portion of the lode, inactivity prevails. Gould & Curry and Best & Belcher are not doing much. The flooded mines and the Chollar and the Potosi are also waiting. Con. Imperial and Bullion are putting in machinery, and this interferes with work in the group north from the Jacket.

"They are delving in the Crown Point and Belcher; but have not yet realized hopes and expectations. Alta and Benton are still getting ready. Justice is improving both in her depths and in the Waller Defeat ground, and Silver Hill is getting ready to participate."

THE EUREKA DISTRICT.

From the *Ruby Hill Mining Report* of the 1st inst. we condense as under: "The developments during the week are not of such importance as to require an extended notice, though the showing in the Elise is very flattering. The Eldorado No. 2 is taking out some rich ore, and the body seems to increase in width as work is advanced in the drift. The connection between the incline and winze sunk on the ore-body in the Bald Eagle will probably be made in two weeks, when it is thought an immense vein of high-grade ore will be cut. The ledge in the Phil Sheridan is 12 feet wide, though of not quite so high a grade as that recently encountered. The prospect of work being resumed on the Holly mine will be cause for congratulation on the part of all, as it is one of the best properties on the Belt. The mines taking out ore at this time are the Richmond, Eureka Con., K K, Phenix, Jackson, Williamsburg, Hoosac, Hamburg, Williams, Albion, Silver Connor, Kit Carson, Banner, Fourth of July, Grant, Bald Eagle, Alexander, Silver Gate Con., Geddes & Bertrand, El Dorado No. 2, Silver Lick, Pioneer, and many others. This is not a bad array of ore-producing mines, and should be sufficient evidence of the permanence of this camp. Several other claims are on the point of important developments, and when all get under proper headway, the district will make a showing favorably comparing with the Comstock in its palmy days. Take the whole belt, from the Geddes & Bertrand to the Holly, and the outlook will astonish those unacquainted with the exact status of affairs."

The *Sentinel* has the following:

"A new tunnel enterprise is about being inaugurated at the head of New York Cañon. The Atlantic & Pacific Tunnel Company was incorporated a short time since. The object of the association is to develop by means of a tunnel certain mining claims on Prospect mountain, near the head of New York Cañon. Among the claims belonging to the company are the Lantern, Sagebrush, Welch King, and East Oakland. The length of the tunnel will be about 1000 feet, cutting the ore-belt at a depth of about 750 feet. The ground is regarded as very favorable for rapid progress, and it is believed that the tunnel can be run in eight months. All of the above mines show well at and near the surface. On the Lantern in particular the ore has been followed down to a depth of 250 feet. The rest of the series are believed to be equally valuable. The company is organized with 100,000 shares, 25,000 shares of which will be set apart for a working capital."

THE RICHMOND COMPANY'S FURNACES.

The *Leader* says: "A good deal of flux is being taken out of the Belmont mine, and will shortly be shipped to the Richmond furnaces. The liberal terms offered by that company for low-grade ores have been of great advantage to small mine owners generally; in fact, to the owners of some of our larger mines as well. The shipments of low-grade quartz kept the Connolly working so long. Had it not been for them it would have been shut down long before. At the ordinary rates paid by the furnace companies, ore can not be sold to any profit unless it contain at least $75 per ton. By the arrangements at the Richmond, siliceous ores of $30 value can be handled to advantage, and even ore of from $15 to $20 will pay for its extraction; thus enabling mine owners of little means to continue in the development of their properties. Apropos of the Richmond furnaces, we are glad to see that they have at length attained their maximum smelting capacity of 80 tons daily. They are probably the largest lead smelting furnaces in the world, and the smelting as carried on in them a thing *sui generis*."

THE HILLSIDE MINE.

The Pioche *Record* of April 26th says: "The Dry Valley mill has for some time past been running twenty stamps of the battery on tailings, screenings, etc. It was found that the tailings that had blown about down at the mill had gathered a lot of fine gravel, and the only way in which the silver could be got at was to crush it over. In consequence of the crushing the tailings yield very handsomely. The Hillside furnace has been running steadily during the past week, and has turned out bullion of the assay value of $15,800. The mine is still improving in the bottom. The 350 level, west, is still carrying good ore the full size of the drift. The east drift, 250 level, is also looking well."

The Indian Queen mine, located in Esmeralda County, recently held its annual meeting, from which we learn that the mine yielded during the year $123,138.91, and disbursed dividends aggregating $27,000. The corporation is represented as a very prosperous one.

ORIGINAL KEYSTONE MINING COMPANY'S SUIT.

The Gold Hill *News* states: "The Original Keystone Silver Mining Company has entered suit in the Twelfth District Court against Bowen & Fox, of Philadelphia, to recover $5700, alleged to be due on account of 15,000 shares of the stock of the plaintiff placed in the hands of the defendants for sale last September."

NEW MEXICO.

THE LOS CERRILLOS MINES.

The Las Vegas *Gazette* says:

"Some splendid discoveries are being made in these mines; the hills are covered with miners, and they all appear to be successful in finding good locations. The hills appear to be seamed with rich mineral veins. Galena, carbonate of silver, gold, and copper are all found. Machinery has been ordered from the States for reduction works. Water and anthracite coal are abundant in the vicinity, and a brilliant future is confidently anticipated for these new discoveries."

The *Independent* says of the mines of Dona Ana County:

"Silver mines were discovered more than a quarter of a century ago along the western base of the Organ Mountains, some 12 miles from Las Cruces. Large quantities of the ore from these mines were hauled to the river and worked in old-fashioned Mexican smelting furnaces, and it is said a fair profit was returned to the owners, notwithstanding the great disadvantage under which the mines were worked. Since the war, the working of these mines has been embarrassed through contentions of different claimants, and the mines are almost forgotten—even their whereabouts are known to but few persons. A few days ago, two Mexicans, while hunting in the rugged peaks a few miles south of the old Stevenson mine, came upon a quartz lead

that attracted their attention, and, following it up through the thick underbrush that almost hid the lead from view, they suddenly came upon an old shaft. The shaft is now quite filled up with *débris;* but, judging from the mound raised by the rock and earth that have been taken out, it must have been sunk to a great depth. We examined some of the ore brought in by those who made the discovery. It is silver-bearing quartz, taken from the surface, and can be classed as low-grade ore.

"Important mining developments are reported in the Sandia Mountains, which are said to be very rich in gold.

"The Little Lucy lode is looking finely, and promises as well as any thing in the camp. Fine ore has been obtained from the start.

"Among the best discoveries made may be mentioned the Surprise. The original shaft is down 40 feet. Work is progressing night and day on a tunnel, intended to tap the ore-body already discovered. The tunnel is now in 140 feet."

UTAH.

THE SNAKE CREEK DISTRICT.

We are indebted to the Salt Lake *Tribune* of May 3d for the following:

"This district is situated on the east slope of the Wahsatch range, in Wahsatch County. It adjoins the American Fork district on the south, Little Cottonwood on the southwest, Big Cottonwood on the west, Tintic on the north, and Blue Ledge on the east.

"The Amazon mine has a chimney of galena ore varying from two to four feet in width, the ore assaying about thirty ounces in silver and 45 per cent lead. There have been about eighty tons of this ore shipped. There are about seventy-five feet of developments on this mine.

"The Lucy is a new discovery, showing a good two-foot vein of ocher and galena, the galena assaying 32 ounces silver and 65 per cent lead. The owners intend working this claim as soon as the snow will admit.

"The Frank mine has an incline shaft 16 feet in depth, showing an eight-inch vein of galena ore, assaying 40 ounces silver and 55 per cent lead.

"The Nelly, at a depth of six feet, shows a six-inch vein of ocher, assaying 30 ounces of silver, and some small pockets of chloride ore, assaying as high as 500 ounces.

"The Storm is a re-location of the Shock. There is an incline shaft on this vein of 35 feet in depth through a solid body of copper ore. The average assay of this ore is 17 ounces silver and 13 per cent copper. It shows a thirty-foot vein on the surface.

"The Last Chance shows a four-foot vein of free milling ore, assaying from 18 to 100 ounces. A fifty-pound sample of this ore, not crushed, was tested by the leaching process, leaching within one dollar of the assay value.

"In connection with other minerals there are large deposits of iron ore in this district, showing in places veins fifty feet in width."

FRISCO.

"The new discoveries, Yellow Jacket, Carbonate, and Mammoth still improve.

"Both smelting companies still continue to run out Horn-Silver bullion by car lots.

"The leaching works are running, and the experiment of matting flue dust from the Horn-Silver smelter meets with good success.

"Boring on the artesian well has temporarily stopped. A fine body of water was struck at a depth of 400 feet; but owing to the fact that there was no tubing on hand to case it, it caved and filled up to a depth of 160 feet. The water was drinkable.

"A big stampede has set in from Silver Reef and this place for Rabbit Valley, where it is said sandstone containing silver in large quantities abounds, to a greater extent even than the far-famed Silver Reef of Southern Utah."

THE SILVER REEF DISTRICT.

The *Miner* of April 30th says:

"Mining developments during the past few days have caused considerable excitement in the Reef. The excitement is occasioned by two strikes, one in the Stormont mine and one in the Manhattan. In the former mine a four-foot vein of $400-ore has been opened up. The Stormont has always yielded rich ore; the only trouble being that it has not been discovered in large bodies. However, now that a four-foot vein of high-grade ore has been found, the yield will be as large as it has heretofore been rich, and the future greatness of this property seems now assured.

"The strike in the Manhattan is of an equally encouraging character. That part of the vein on which the main shaft is now being sunk has lately widened, exposing a body of high-grade ore about three feet in thickness."

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office*, for the two weeks ending April 22d, 1879:

WEEK ENDING APRIL 15TH.

No. of Patent.	*Title of Invention.*	*Name of Inventor.*	*Residence.*
214,286	Valve	John Enright	Cleveland, Ohio.
214,287	Steam-Engine Boiler and Cylinder	Thomas J. Fales	New York, N. Y.
214,294	Regenerative Hot-Blast Oven	John M. Hartman	Philadelphia, Pa.
214,344	Separating Metals by Electrolysis	Emil Andre	Ehrenbreitstein.
214,372	Rotary-Engine	Samuel B. Davis (a)	Hamburg, Iowa.
214,380	Amalgamator	Thomas A. D. Forster	Norristown, Pa.
214,398	Cylinder-Teeth for Coal Breakers	E. H. Jones	Wilkes-Barre, Pa.
214,412	Purifying and Increasing the Illuminating Power of Gas	Orazio Lugo (b)	Flushing, N. Y.
214,414	Gas-Retort	Albert W. M. Maass	Meridan, Miss.
214,461	Water-Engine	Walter Shriver	New York, N. Y.

RE-ISSUE.

8,678	Rolls for Utilizing Steel Rails	William Garrett (c)	Cleveland, Ohio.

WEEK ENDING APRIL 22D.

214,500	Flue-Cleaner	Edward G. Fellhousen	Buffalo, N. Y.
214,501	Telescope	Karl Fritsche (d)	Vienna, Austria.
214,507	Damper Regulator for Furnaces	Daniel C. Kellem	Detroit, Mich.
214,514	Regulator for Electric Lights	E. J. Molera	San Francisco, Cal.
214,515	" " " "	" "	" " "
214,516	Carbon Floats for Electric Lamps	" "	" " "
214,525	Oxidizing and Chloridizing Furnace	William T. Rickard	" " "
214,556	Lift and Force Pump	Willis G. Fawcett	Salem, Ohio.
214,565	Boiler-Feeder	Daniel Hess	Evansville, Ind.
214,578	Rolling-Mill	Charles H. Morgan	Worcester, Mass.
214,597	Steam-Pump	John Tregoning	Brooklyn, N. Y.
214,630	Wire Straightening, etc., Machine	Frederick E. Cross	Waterbury, Conn.
214,636	Electric Light	Thomas A. Edison	Menlo Park, N. J.
214,637	Thermal Regulator for Electric Lights	" "	" " "
214,645	Mechanism for Converting Reciprocating into Rotary Motion	William F. Goodwin	N. Brunswick, N.J.
214,659	Apparatus for Pulverizing Metalliferous Quartz	Samuel F. Hodge	Detroit, Mich.
214,660	Turbine Water-Wheel	Andrew J. Hopewell	Edenburg, Va.
214,699	Rotary Pump and Blower	James E. Phinney	Kingston, N. Y.
214,702	Rotary-Engine	Tapley B. Pyron	Springfield, O.
214,704	Rock-Drilling Apparatus	Henry Richman (e)	San Francisco, Cal.
214,706	Wire-Barbing Machine	Noble G. Ross	Des Moines, Iowa.
214,720	Chamber-Drill for Drilling Rock	Milton N. Shur	Denver, Colo.
214,732	Pump	Charles Tyson	Philadelphia, Pa.

RE-ISSUE.

8,683	Compressed Air for Motive-Power	Louis Mekarski (f)	Paris, France.

(a) Assignor to himself and George Sproul.
(b) Assignor to Jacob William Decastro, New York, N. Y.
(c) Assignor of ½ interest to John R. Howell, same place.
(d) Assignor of ½ interest to Koch Brothers, Stuttgart, Würtemburg.
(e) Assignor of ⅔ of his right to Uriah K. Arnold, same place.
(f) Assignor of Société Générale des Moteurs à Air Comprimé, same place.

PROPOSALS.

For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received:

Plumbing and Gas Piping; John Fraser, Acting Super. Architect, Washington, D. C.	May	12, 1879.
Land Surveys, Texas; Comptroller of Public Accounts, Austin, Texas	"	15, "
Hospital Building; A. A. Lewis, Weston, W. Va.	"	21, "
Building and Constructing Water-Works, 1,000,000 gallons capacity; Trustees of Water-Works, East Liverpool, O.	"	24, "
Pumping-Engine, Construction of, including Foundations, etc.; Chief Engineer City Works, Brooklyn, N. Y.	"	26, "
Harbor Improvement; S. M. Mansfield, Major of Engineers, Detroit, Mich.	"	" "
Erection of a State Capitol; James Smith, Secretary of State, Topeka, Kansas.	June	2, "
Repairs for Old Pier; John M. Wilson, Major of Engineers, Cleveland, O.	"	" "
Building; David W. Gibbs, Xenia, O.	"	3, "
Bridge. Building Wagon-Bridge (Iron) over Cedar River, Iowa, 4 spans, 140 feet each; R. H. McCampbell, Auditor, Muscatine, Iowa.	"	4, "
Designs for Pumping-Machinery, for which premiums will be paid, as follows: 1st best design, $500; 2d best, $300; 3d best, $200; W. E. Cutshaw, City Engineer, Richmond, Va.	July	1, "
100,000 tons of Steel Rails to be Manufactured in New Zealand; John Knowles, Under Secretary for Public Works, Wellington, New Zealand.	Sept.	30. "

STATISTICS OF COAL PRODUCTION.

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending May 3d, and years from January 1st:

TONS OF 2240 LBS.	1879.		1878.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co.	64,260	896,238	27,684	679,462
D. L. & W. RR. Co.	64,753	1,043,752	27,292	557,150
Penn. Coal Co.	34,937	392,273	581	168,926
L. V. RR. Co.	17,774	292,212	10,415	214,736
P. & N. Y. RR. Co.	529	5,299	.....	7,523
C. RR. of N. J	22,023	550,878	14,064	265,429
Penn. Canal Co.	.....	.....	.....	32,448
	204,276	3,180,652	80,036	1,925,674
Lehigh Region.				
L. V. RR. Co.	58,632	859,334	39,753	665,903
C. RR. of N. J.	25,875	630,294	8,180	310,164
S. H. & W. B. RR.	.....	8,574	.....	5,962
	84,507	1,498,202	47,933	982,029
Schuylkill Region.				
P. & R. RR. Co	143,901	2,007,142	165,802	1,007,795
Shamokin & Lykens Val.	18,393	228,191	21,030	174,956
	162,294	2,325,333	186,832	1,182,751
Sullivan Region.				
Sul. & Erie RR. Co.	609	16,977	284	10,197
Total	451,686	7,021,164	315,085	4,100,651
Increase	136,601	2,920,513	.....	.....
Decrease	.....	.....	.....	.....

The above table does not include the amount of coal consumed and sold at the mines, which is about five per cent of the whole production.

The increase of shipments of Cumberland Coal over the Cumberland Branch, and Cumberland and Pennsylvania railroads, amounts to 68,817 tons, as compared with the corresponding period in 1878.

Belvidere Delaware Railroad Report for week ending May 3d:

	Week.	Year. 1879.	Year 1878.
Coal for shipment at Coal Port (Trenton)	.....	.....	170
Coal for shipment at South Amboy	9,867	145,766	160,426
Coal for distribution	6,535	109,979	54,098
Coal for Company's use	1,495	29,356	28,607

The receipts of coal at Providence, from January 1st to May 3d, were as follows:

	1879.	1878.
From Philadelphia	21,606	28,536
From New York	120,836	85,536
Soft coal	16,625	18,600
Total	159,067	132,672

The Production of Bituminous Coal for the week ending May 3d was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lb	35,826	415,947
Barclay Region, Pa.		
Barclay R. R., tons of 2,240 lbs.	3,293	123,887
Broad Top Region, Pa.		
Huntingdon and Broad Top R. R.	2,975	47,378
*East Broad Top	1,391	19,117
Clearfield Region, Pa.		
*Snow Shoe	490	6,184
*Tyrone and Clearfield	29,346	375,001
Allegheny Region, Pa.		
*Pennsylvania R. R	5,074	50,582
Pittsburg Region, Pa.		
*West Penn R. R.	4,226	58,249
*Southwest Penn. R. R.	704	10,297
* Penn & Westmoreland gas coal, Pa. R. R.	19,269	239,420
*Pennsylvania R. R.	7,884	118,904

*For the week ending April 14th.

The Production of Coke for the week ending April 14th:

Tons of 2000 lbs.	Week	Year.
West Penn R. R.	1,155	27,985
Southwest Penn. R. R.	5,499	247,003
Penn. & Westmoreland Region, Pa. R. R.	1,557	33,187
Pittsburg, Penn. R. R.	2,820	43,612
Penn. R. R. (Allegheny Region)	371	14,857
Total	11,402	356,644

THE COAL TRADE REVIEW.

NEW YORK, Friday Evening, May 9, 1879.

Anthracite.

There has been a very active business, and some companies and firms have had to refuse orders; but still there is no improvement in prices. There does not, however, appear to be any desire upon the part of some of the companies to secure better prices by natural means.

Buyers fully realize that the present prices are lower than they will continue, and are stocking up very liberally. The effect of this will be felt by the companies later in the year, when a large business and higher prices would naturally be expected.

The iron and steel industries are very large consumers of coal at the present time, and promise to do even better. To the depression in the iron trade has been attributed the large falling off in the consumption of anthracite coal. This can not be affirmed much longer. According to the statistics furnished by Mr. James M. Swank, the Secretary of the American Iron and Steel Association, the production of anthracite pig-iron in 1878 was 1,092,870 tons, as compared with 934,797 tons in 1877, and 1,369,812 tons in 1872,

when the largest production in the history of the trade occurred. The quantity of rails produced in the United States last year has only been exceeded in two years—1872 and 1873—while the States using anthracite coal show a production within 86,000 tons of the largest year—1872. The production of rolled iron shows an increase of 88,000 tons over 1877, which was the largest year previousiy. The indications are favorable to as large a production of iron and steel in this country this year as we have ever seen, while the more sanguine look to this being even larger than ever before.

There has been the usual amount of talk about a coal combination, and as little ground for it.

The production of anthracite coal last week was 451,686 tons, as compared with 495,290 tons the previous week, and 315,085 tons for the corresponding week of 1878. The total output from January 1st to May 3d was 7,021,164 tons, as against 4,100,651 tons for the like period of last year, showing an increase this year of 2,920,513 tons.

Bituminous.

There has been no business worthy of note. The very low prices of anthracite coal are giving it the preference. The bituminous producers can comfort themselves with the assurance, however, that these prices will the more rapidly bring about a normal condition of affairs, and that next year their prospects will be much more encouraging. In the Cumberland region, preparations are being made to unlock the wealth of that very rich district. The construction of the George's Creek & Cumberland Railroad is now an assured fact, and in conjunction with its control of the Pennsylvania Railroad in Maryland, three competing routes are offered the producers, namely, the Chesapeake & Ohio Canal, the Baltimore & Ohio Railroad, and the Pennsylvania Railroad. We shall review the advantages of these increased transportation facilities at an early day, having made a personal visit to the region for the purpose of thoroughly investigating its prospects.

The following is dated Buffalo, May 7th :

"All sorts of prices are being made, both for the wholesale and retail trade.

"Tonnage seems to be the only object companies are striving for. If this be not it, then coal men are losing their wits.

"Very low prices have been made, and considerable coal contracted for. Some sellers say they have had enough, and are sick.

"It is not at all probable that the present demoralization can continue long ; and those who are holding off for still lower prices will find themselves minus."

Advices dated 6th inst. are as follows :

BUFFALO, N. Y.

"No new phases in the coal trade. The lower the price at which coal is sold apparently the more anxious people are to dispose of it. Proposals were invited by the city for the furnishing of coal to the poor. The award was today made at $3.10 for stove and $2.90 for nut, delivered. Taking into account that the coal for the poor will not much of it be needed before next winter, and then is to be delivered in ton, half-ton, and quarter-ton lots, and the amount of profit on the award can be represented by a decimal fraction.

"Bituminous coal and coke remain unchanged."

Messrs. C. A. Miltenberger & Co., of New Orleans, writing under date of 1st inst., say :

"The coal market is firmer, with but little coal offering at present prices, which have an upward tendency ; stock small ; demand fair. Coal on hand May 1st, 1879 : 110 boats and 2 barges Pittsburg coal. Consumption during April : 20 boats and 1 barge Pittsburg coal. Arrivals : 10 boats and 1 barge Pittsburg coal."

Pittsburg. May 8, 1879.

COAL.—Nearly all of the coal fleets have returned, and the navigation is closed by the water being too low for this kind of craft with cargoes aboard, as they draw from 6 to 9 feet. As the effect of this stoppage extends to all the coal districts bordering on the Ohio, it has produced an apprehension of a possible short stock on hand before another freshet. As a result of this feeling, prices have advanced a little in the lower markets, but will fall back with the first rise of the river. In the intermediate time, all the empty craft here will be filled and ready to run, as well as that belonging to the coal-fields lower down. The floatage of this port will have their cargoes aboard within the next ten or twelve days, when mining will be forced to stop until another flood, whether sooner or later. The operators in the regions below—Kanawha, Pomeroy, etc.—have, as yet, limited their adventures to the nearer points of sale, and have never sent their coal down the Mississippi. This has left the Pittsburg dealers in exclusive possession of the lower markets. It is not probable that this monopoly will remain longer than may be requisite to obtain enlarged and improved facilities for sufficient transportation. The competition in the coal trade will then extend from the head of the Ohio to the mouth of the Mississippi ; and the marvel is, that it has not been so extended ere this. Then the business will be regulated by the quality and price of the coal. For ordinary use, the cheapest will command the markets ; but for choice purposes—gas, coke, smithwork, metallurgical processes—adaptability will, in a great measure, supersede the consideration of cost. We give the table of prices as corrected, though the changes may be set down as temporary ; a return to late prices being the inevitable consequence of renewed navigation and free competition :

PRICES AT PITTSBURG.

Wholesale, on board.....	4	cts. per bushel,	$1.06 per ton
Retail, delivered	5½	" "	1.46 "

AT CINCINNATI.

Wholesale, on board.....	7	cts. per bushel,	$1.85 per ton
Retail, delivered.....	8½	" "	2.25 "

AT LOUISVILLE.

Wholesale, on board.....	7	cts. per bushel,	$1.85 per ton
Retail, delivered.....	8½	" "	2.25 "

AT NEW ORLEANS.

Wholesale, on board.....28	cts. per barrel,	$2.62 per ton
Retail, delivered.....40	" "	3.87 "

Bushels are rated among dealers here at 76 lbs.—26½ bushels make a ton, nearly.

The barrel that rules the coal measurement in New Orleans contains 2 4-7 bushels of 80 lbs. each, making about 200 lbs. Nine and two thirds of these barrels weigh a ton, within a small fraction.

COKE.—The mining of coal for the coke-ovens is progressing full-handed. About 2500 miners are now in the pits at work, and the manufacture is up to the capacity of the ovens—30,000 tons a week—which about equals the demand of consumers. Quotations remain steady—$1.15 to $1.30 per ton of 2000 lbs. on board cars at ovens.—*American Manufacturer.*

San Francisco. May 1, 1879.

COAL.—Imports from Jan. 1st to April 1st : Anthracite, 1973 tons; Coos Bay, 8523 tons; Vancouver Island, 37,309 tons ; Seattle, 34,129 tons ; Carmel Bay, 200 tons ; Cumberland, 626 tons ; Carbondale, 746 tons.

The Nanaimo *Free Press* of April 12th has an exhaustive report of the Inspector of Mines of British Columbia, from which we compile a few extracts.

The coal mines which have been in active operation during the past year, namely, the Vancouver Coal Company's Douglas, Chase River, and Fitzwilliam mines, and the Wellington Company's mine have shown satisfactory progress, having produced upward of 171,000 tons of coal during the year 1878, against 154,000 tons, the total output of four proprietaries carrying on work in 1877, being an increase of 17,000 tons for 1878, and the greater excess of 32,000 tons over the total output of 1876. In view of the extremely low rates obtained for coal in San Francisco throughout the past year, it is gratifying to find that the shipments of coal to that port have not diminished, but largely increased, thus manifesting a praiseworthy determination on the part of the managers of these mines not to be beaten out of their accustomed channels of trade. During the year 1878, over 164,000 tons of coal, the produce of Vancouver Island, have been shipped to San Francisco and southern ports of California, Portland, Oregon, Seattle, Washington Territory (gas coal), Ounalaska, Alaska, Mexican ports, Hawaiian Islands, and Hong Kong, vessels belonging to various navies, and to the steamships of the several mail services. The foreign shipments of coal for 1878 show the remarkable increase of nearly 50,000 tons over the foreign shipments of 1877. Undoubtedly the unfortunate stoppage of work at the Wellington Colliery lessened the total output and shipments of coal for the year 1877 ; but, on the other hand, the idleness of both the Vancouver Coal Company's mines and the Wellington Company's mine during portions of several months of the dullest times of 1878 equalizes the actual working time of the mines in the year under comparison, and so justifies the deduction that the coal industry of this province is in a promising state of development and progress. The sales of coal for home consumption are small in proportion to the quantities exported. These sales of 1878 were 1655 tons more than those of 1877.

The arrivals here during the week embrace the following : City of Chester, 550 tons Nanaimo ; Geo. Harley, 70 tons Carmel Bay ; Arcata, 360 tons Coos Bay ; J. B. Bell, 1170 tons Seattle ; Victoria, 1635 tons Nanaimo. The market is very dull, and prices so low that receivers are loth to give actual quotations. California Mt. Diablo Steam sells at $4@$4.50 ; Australian, $6.75@$7.50 ; Coos Bay, $5.75 ; Seattle, Nanaimo, etc., $7, or thereabouts ; all other kinds in proportion. The ship Two Brothers from Seattle brought 2151 tons.—*San Francisco Commercial Herald, May 1st.*

IRON MARKET REVIEW.

NEW YORK, Friday Evening, May 9, 1879.

American Pig.—Although this has been a week without any really important transactions, yet we note, in lots, 1300 tons of No. 2 Foundry Thomas iron, at $17 ; 500 tons of mottled iron on private terms ; and the usual amount, in small parcels, of various brands. Prices are quite firm, with rather an upward tendency. The statistics of the American Iron and Steel Association, which we publish in this number of the JOURNAL, give considerable encouragement to the producers of iron, showing that the consumption is steadily and rapidly increasing, while, through decay of the furnaces, the productive capacity is decreasing. We quote No. 1 Foundry at $18@$19 ; No. 2, $17 ; Forge, $16.

Scotch Pig.—We note a sale of an outside lot of 500 tons of Coltness, at $21. There is the usual business doing in a small way. We quote Coltness, at $22@$22.50 ; Eglinton, $19@$19.50 ; Gartsherrie, $21@$21.50.

Rails.—The Lackawanna Coal and Iron Co. has sold 1000 tons of steel rails to Mr. Wm. H. Vanderbilt, thereby adding confusion to his late purchase of English rails. We also note sales of 3500 tons of steel rails, part at $45, at Amboy. We quote steel rails at $45, at the shipping ports here. There has been a very active business doing lately in iron rails. We note a sale of 7500 tons and another of 7000 tons. Prices are strengthening, and the quotation is now $37@$38 at tide-water.

Old Rails.—The sales have amounted to about 3000 tons, at $20.75@$21, which is the closing quotation.

Wrought Scrap.—Sales of about 1000 tons are reported. Of this, 300 tons sold at $22.50. The asking price is $23@$24.

Advices from Richmond, Va., of same date, state that there is no change in the market.

The market at Cincinnati is unchanged.

A. H. Childs, of Pittsburg, Pa., under date of May 6th, writes as follows :

"The metal market is quiet, and prices are unchanged. Good brands of red-short pig-iron are scarce and in request, while the supply of weak and cold-short is in excess of the demand, and prices rule weak accordingly."

Our Louisville (Ky.) correspondent writes, May 3d :

"The market shows less animation. The sales are confined to lots to cover contracts, or for immediate use, and there is little or no demand for future delivery. Prices are unchanged."

At Baltimore there is a fair demand. Prices remain as last quoted.

Messrs. Card & Hoffer, of St. Louis, write, May 5th, as follows :

"Pig-iron remains unchanged in price and movement. Trade in every department of commerce has been only moderate, and much disappointment is expressed, since expectations were for good business generally. Continue quotations as heretofore."

Our Columbus (Ohio) correspondent writes as follows :

"Not the least new feature has transpired in the pig-iron market since our report of last week. Some few offers are made for round lots ; but consumers generally are buying only as their wants require. Nearly all the cheap lots of low-grade irons have been closed out. Stocks at furnaces continue light. We quote as follows :

FREIGHTS.

Lake Freights on Coal and Iron Ore.

Representing the latest actual charters up to May 7th, 1879.

Free in and out to the vessel:

From	To	Rate Per ton.	From	To	Rate Per ton.
Ashtabula.	Chicago	$0.50	Buffalo....	Toledo	$0.15
Buffalo....	Cleveland..	15	Cleveland.	Muskegon.	50
"	Chicago....	30	"	Chicago	50
"	Milwaukee.	30	"	Severn Bay	20
"	Detroit. ...	15	"	Milwaukee.	50

Our Buffalo correspondent writes :

"The heavy west wind of the past week has driven the ice hard into our harbor, and it will be some days, even with an easterly wind to drive the ice up the lake, before vessels can get out."

Ocean Freights.

Ocean Freights on coal, iron, etc., per ton of 2000 lbs. to and from foreign and domestic ports, for four weeks ending May 7th, 1879, are given below.

DATE.	From	To	Cargo.	R'te
Apr. 11	New York.....	Baltimore.....	Sulphur	90
" 11	New York.....	Philadelphia....	†	1.05
" 11	Elizabethport.....	Richmond.	Pig-iron	90
" 11	Norwalk.....	Richmond.	‡	1.25
" 11	South Amboy.....	Havana.....	Coal....	1.00
" 15	South Amboy.....	Salem.....	Pig-iron	1.45
" 15	South Amboy.....	Bangor.....	Pig-iron	1.60
" 15	Manhattanville.....	Richmond.	Pig-iron	80
" 18	Cow Bay.....	St. Jago...	Coal....	3.50
" 18	New York.....	Richmond.	Guano..	1.00
" 18	New York.....	Morgan City..	§	4.00
" 18	Charleston.....	Philadelphia....	Old iron	2.75
" 19	Philadelphia.....	St. Thomas	Coal....	2.50
" 22	Boston	San Francisco..	Iron....	‖
" 22	South Amboy.....	Havana.....	Coal	1.00
" 22	Baltimore...	San Francisco.	Coal....	7.00
" 22	New York.....	Aspinwall.....	Coal....	3.60
" 22	New York.....	Calcasieu Pass.	RR. iron	4.00
" 22	Hoboken....	So'th Newm'k't	Pig-iron	2.00
" 25	Baltimore....	San Francisco..	Coal . .	7.00
" 25	Baltimore....	St. Thomas....	Coal....	2.75
" 25	Baltimore....	Martinique.....	Coal....	2.90
" 25	Baltimore.....	Havana.....	Coal....	1.50
" 25	Georgetown, D. C. ..	Aspinwall.....	Coal....	4.50
" 25	Baltimore...	St. Jago.....	Coal....	2.00
" 25	New York..	Wilmington....	*	1.75
" 25	Cow Bay.....	New York.....	Coal....	1.50
" 25	New York.....	Gloucester.	Salt.....	4½c
" 25	New York.....	City Point.....	RR. iron	1.20
" 25	New York.....	Richmond.	*	1.25
" 25	New York.....	Richmond.	Pig iron	90
" 25	New York.....	Richmond.	‡	1.25
" 29	New York.....	Baltimore.....	Guano..	1.50
" 29	New Haven....	Richmond.	‡	1.25
May 3	New York.....	Charleston.....	RR. iron	1.50
" 3	Manhattanville.	Weymouth....	Pig-iron	1.70
" 3	Hoboken....	Boston.....	Pig-iron	1.50
" 7	New York..... ...	Richmond.	Guano..	1 00
" 7	Elizabethport.....	Richmond.	Pig-iron	80
" 7	New York.....	Philadelphia ..	¶	3c
" 7	Perth Amboy.....	City Point. ...	**	1.20

* Phosphate. † Peruvian guano. ‡ Old rails. § Machinery ‖ $8@$10. ¶ Salt in bulk. ** Steel rails.

METALS.

NEW YORK, Friday Evening, May 9, 1879.

There has been a very good jobbing business in nearly all metals ; but there has been nothing in a

large way. The consumption of metals will be very large this year; and although there may be but little if any advance in prices, yet the situation is still an encouraging one, as pointing to better times coming.

Copper.—There is but little business doing. The market is strong at 16c. There is a very strong effort to bull the market, it being said that there is less copper here now than for years. This is questioned by good authorities, yet it may be so. But then we have had no overland shipments this year, and there must be so much more back at the mines, which will begin to come in perhaps at the latter part of this month. It is thought that some large transactions will be consummated during the next two weeks.

From London, under date of April 21st, we have received the following:

"The sales of Wallaroo, up to the present, consisted of altogether 12,431 tons, the actual average price thereof being £76 13s. per ton. The highest price was that of the first sale, £83 12s. 6d., on the 28th of March, 1876; the lowest was the last sale, £64 17s. 1½d., on the 28th of January, this year. Of the foregoing quantity there now remain in store 1084 tons, of which 1024 tons cakes, 60 tons ingots. The importer holds 3630 tons, of which 1070 tons will be offered by auction to-morrow."

Under date of April 22d, the same correspondents write:

"The following is the result of the public sales of Australian held this day:

"Wallaroo—349 tons cakes, £62¼@62⅞—average, £62 10s. 6½d; 8½ ingots, £63 2s. 6d.—average, £63 2s. 6d. Average of above, £62 10s. 8d.; remainder withdrawn.

"Burra—162½ tons cakes, £61¾@£62⅝—average, £61 19s. 10d.; 66 ingots, £61¾@£62—average, £61 19s. 7d. Average of whole sale, £61 19s. 9d.

"The prices realized for the Wallaroo were so disappointing that while the sale was in progress a limit of £62½ was placed by the principal owner of the metal, and this necessitated the withdrawal of 412½ tons cake. The importer is now at liberty (see No. 1 of the printed sale conditions) to treat for the whole, or any portion, of his stock, should he feel so disposed; but on this point no decision has yet been taken. The whole attention of the trade was engrossed by the above sales; and the result having taken dealers by surprise, the quotations for other descriptions of metal are nominal. We call Chili Bars £56@£57 for ordinary brands, and difficult either to buy or sell."

Under date of April 24th, they say:

"By a clerical error we stated in our report of yesterday that the lowest price accepted at the public sale for Wallaroo cake was £62¼; it should have been £62½, and at which 40 tons were disposed of. To-day we have to announce the sale of the 412 tons withdrawn at yesterday's auction, on private terms and conditions; but not under the limit then placed on the metal. This transaction took place rather late this afternoon, but was known in time to give a rather firmer tone to the market, and Chili bars were at once in request, at £56 for G. O. B.'s, although buyers had previously refused to pay over £55¾.

Under date of April 25th, they say:

"Chili Bars show signs of a further improvement, and we note sales of about 200 tons at £56⅛ and £56¾ cash, £57 three months prompt, for good ordinary brands, and £57½ cash for best marks. At same figures and terms, we closed with rather buyers than sellers, £57 cash being refused for a small quantity of a favorite mark. The market, however, is still in a rather sensitive condition, it being rather doubtful whether any important purchases or sales could readily be made at the rates nominally ruling. There is a little more inquiry springing up for Australian. £63 was paid this afternoon for Wallaroo cake, and dealers now seem inclined to ask more money. Burra is called £62½ cash."

London advices of the 29th ult. are as follows:

"About 150 tons Chili bars changed hands to-day; but the whole of the business consisted of exchange operations, and the prices fixed can not therefore be taken as an index of the actual market values. The rates settled for the above were £56 and £56⅛ for favorite brands, £55½ and £55¾ for fair ordinary marks; but no actual purchases could be made at the minimum rates, and several orders offering thereat had to be returned unexecuted. We call G. O. B.'s £56, favorite sorts £56⅛, best £57⅛, sellers, with a fair inquiry at 10s. less money; and in some instances buyers seemed to be inclined to spring 5s. per ton, though they refused to make positive offers except on the lower terms. Australian descriptions are dull, Wallaroo cake, £62¾; Burra cake, £62½; values nominal."

Tin.—With only a jobbing business we quote Straits, at 14½@14¾c.; L. & F. and Refined, at 14¾@15c. Yesterday's cable quotation was £67 for Straits in London.

From London, under date of April 25th, we have received the following:

"A reaction has once more set in, and small cash transactions are again reported at 68¾s., while 68⅛s. has been accepted for short fixed prompts. At the above figures there are further sellers, and a disposition shown to accept lower values."

London advices of the 29th ult. are as follows:

"No improvement to note in this metal, of which there are cash sellers at 68⅛s., and only a small trade reported. Forward deliveries can be had at 68s., but meet with no inquiry."

Tin Plates.—There continues to be a very good jobbing demand. We quote, per box, as follows: Charcoal, bright, ⅛ X, Melyn grade, at $6.37½@$6.50; Allaway grade, $6.25; charcoal ternes, Allaway grade, $5.50@$5.75; coke, bright, B. V. grade. $5.25, and coke roofing, 14 × 20, $5.

Messrs. Robt. Crooks & Co., of Liverpool, under date of April 24th, say of tin and terne plates:

"Little doing, and prices all round consequently easier. Coke tins are least inquired for and most drooping, while makers of best charcoal tins, and of most descriptions of ternes, are still well provided with orders."

Lead.—Sales aggregating about 300 tons, at 3c. per lb. are reported. The *Iron Age* gives the following as the world's production of lead in 1860 and 1877:

	1860. Tons.	1877. Tons.
Spain	90,000	130,000
England	63,000	61,000
Germany	35,000	86,000
Italy	20,000	20,000
France	15,000	12,000
Other countries	15,000	15,000
America	30,000	70,000
Total	268,000	394,000

When we consider that the large growth of production in 17 years has been practically absorbed, and that a large proportion of the production of 1877 could not be duplicated at present prices, except at considerable loss, there is encouragement in the belief that the increase of our production, incidental to the production of silver, will in time be absorbed without causing more than a ripple in the commercial affairs of the world.

Spelter and Zinc.—We quote spelter dull and weaker, at 4⅝@4½c. Sheet zinc is quoted at 6@6½c.

Antimony is quoted at 11⅜@11½c. for Hallett's, and 11¼@12c. for Cookson's.

Quicksilver.—The market is flat, and prices seem to be inclined downward. Price 36c. for large lots for export. We understand that the outgoing steamship City of Peking, for Hong Kong, has freight engaged for upward of 1500 flasks, and for the succeeding steamer further engagements have been secured, all upon the basis of 36c. The Guiding Star, for Callao carried 400 flasks.

Our exports by sea for April, 1878-9, are as follows:

To	1878. Flasks.	1878. Value.	1879. Flasks.	1879. Value.
China	2,275	$77,235	6,850	$194,183
Mexico	240	7,752	515	14,789
Japan	145	4,708	90	2,612
Australia	..	....	100	3,060
Central America	....	....	20	573
Victoria	12	410	....	....
New Zealand	50	1,609	10	287
Callao	....	....	400	11,322
Totals	2,722	$91,714	7,985	$226,826
Prev. since Jan 1st.	5,466	184,927	10,404	324,792
Totals since January 1st	8,188	$276,641	18,389	$551,618
Increase this year	10,201	274,977		

Our monthly receipts are as follows:

Month.	1878—Flasks.	1879—Flasks.
January	4,290	5,631
February	2,686	5,147
March	2,762	5,127
April	5,375	5,123
Totals	15,113	21,028

—*San Francisco Commercial Herald, May 1st.*

THE BULLION MARKET.

NEW YORK, Friday Evening, May 9, 1879.

The market has been steady for the entire week at about 50⅛d. in London and 109 to 109¼ here, with no new feature worthy of notice. The San Francisco quotation is 17 per cent discount.

On May 1st the Horn-Silver Mining Company had on hand about 1100 tons of bullion—silver-lead.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
May 3	50 1-16	109⅛	May 7	50⅛	109⅛
May 5	50 1-16	109¼	May 8	50⅛	109⅛
May 6	50⅛	109¼	May 9	50⅛	109¼

BULLION SHIPMENTS.

We give below a statement showing the latest bullion shipments in addition to those announced in our issue of May 3d:

April 23d	Northern Belle	Nev.	$8,741.39
" 23d	Highbridge	"	4,150.00
" 24th	Ophir	"	19,677.00
" 26th	Con. Virginia	"	20,543.00
" 26th	Martin White	"	14,728.18
" 26th	California	"	41,920.00
" 26th	Alexander	"	6,731.00
" 26th	Manhattan	"	17,829.38
" 28th	Grand Prize	"	9,000.00
" 28th	Independence	"	6,000.00
" 26th	Silver City	Idaho	1,350.00
" 25th	Crimson Mammoth	Utah	1,600.00
" 30th	Christy	"	1,371.00
" 30th	Leeds	"	3,473.78
" 30th	Pioneer	"	1,588.88
" 30th	Silver Reef	"	27,747.73
May 1st	Ely Mill	"	1,550.00

Silver-lead bullion receipts from the Horn-Silver mine by Warnock & Co., York, Utah:

April 19th, on hand	$743,926 lbs.
Received from April 19th to 26th	198,330 "
Total	$942,256 "

Or 471·256 tons.

Exports of Gold and Silver.

Week ending May 3d	$243,259
Corresponding week last year	465,300
Since January 1st this year	6,644,859
Corresponding period last year	7,224,774

Gold Interest Paid Out by the Treasury.

Week ending May 3d	$1,885,187
Corresponding week last year	2,192,752
Since January 1st this year	23,939,899
Corresponding period last year	25,253,436

Storey County (Nev.) Bullion Yield for First Quarter 1879.—The following is taken from the quarterly assessment-rolls of Storey County, Nev.:

Name of Co.	Tons extracted.	Value per ton.	Gross yield or value	Total Cost.
California	21,869	$43	$952,994.00	$590,015.42
Cons. Virginia	17,784	49	874,213.00	467,048.30
Cons. Imp.	3,240	11	37,195.20	46,960.00
Trojan	1,563	17	27,780.46	22,556.54
Justice	1,365	9	12,024.36	23,205.00
Ophir	5,994	76	453,563.71	299,839.01
Chollar-Potosi	1,014	14	14,460.75	15,039.11
Total ores	52,829	.....	$2,372,231.48	$1,464,663.38
TAILINGS.				
Mariposa mill	4,067	$11	45,534.18	29,659.43
Omega mill	13,248	10	137,253.38	81,720.23
Thos. Hully	395	11	4,485.00	4,240.00
Total Tailings	17,710	.....	$187,272.56	$115,619.66

The London Silver Market.—LONDON, May 7.—The *Times*, in its financial article this morning, says:

"There was an active and urgent demand for silver for Spain, and as there was nothing in the market here to meet the wants, the agents of the German government were applied to, and about 100,000 pounds were obtained at 50¾d. per ounce. Having thus met a passing demand, the representatives of Germany do not seem anxious to dispose of any more silver. Apart from the exceptional Spanish requirements, there does not appear to be any general demand for silver, and the price quoted above could not be relied on as the actual market rate. In fact, at the close the price, as a rule, was about ⅛d. lower."

The Boston & Colorado Company's agency at Alma has stopped shipping ore, and will let it accumulate until better rates than the present can be made on freight to Denver. The company have the means and the facilities for buying and storing all of the ore offered, so it will not make any difference to outsiders whether they buy to store or ship.

The present output of the Richmond Consolidated Mining Co. exceeds $50,000 per week, the ore averaging over $60 per ton.

Bodie Bullion Shipments from April 1st to 23d were as follows: Bulwer, $81,610; Bechtel, $11,506; Standard, $64,749. This latter company has produced over $2,000,000 to date.

The Bonanza Shipments.—Con. Virginia shows an average extraction of about 140 tons of ore per day. To the 1st inst. the bullion yield for the past month was $232,363. California produces an average of 247 tons per day, and up to the 1st the product of bullion for the month was $373,929. Ophir has shipped, to the same date, $40,000.

The Terrible mill, at Georgetown, Colo., is concentrating twenty tons of ore daily. The ore, as it comes from the mine, runs about fifteen ounces per ton. About twelve tons are concentrated down to one, which is about one third galena and two thirds zinc ore, the galena being worth about 250 ounces, and the zinc 125 ounces per ton.

Hill's Sampling Works, at Boulder, shipped in the month of April over 73 tons of ore, and paid out over $13,000. The outlook for May is much better, and, from indications, receipts will be largely increased.

The Golden Age mine at Boulder, in four and a half days, turned out 9 corns of ore that netted under the stamp 90 ozs. of gold, worth $1600; while for the month, up to April 26, 12 men breaking rock produced over 300 ozs. gold.

The agents for the Omaha Smelting Company were paying on the 27th of April $27 per ton for lead in bullion, at the end of the track in Denver, which was an advance in the price of $8.50 for the week.

The Gilpin County (Colo.) bullion product shows an excess of $26,130 for the first quarter of 1879 over the corresponding period of 1878. Ore sales for the first quarter of this year reached $107,454.93. Of this amount, the Argo works paid $81,157.50, and the Valley works of Golden $26,197.43.

Salt Lake Ore and Metal Market.

Mr. J. B. Meader, under date of the 3d inst., reports the following shipments:

Shipments of base bullion for April		1,753,932 lbs.
" " " three months		8,461,575 "
Total for four months		10,215,507 "
Ore shipments for April reduced to lead	7,400	
Ore shipments for three months, reduced to lead	778,160	
		785,560 "
Total shipments of lead for three months, 1879		11,001,067 "
Same time for 1878		15,321,857 "
Decrease in 1879		4,320,790 "

San Francisco Ore and Bullion Shipments for the week ending the 1st inst. are reported as under: "The ship Marianna Nottebohm, for New York via Mazatlan, carried 416½ tons of iron ore, valued at $4165. The Vancouver, for Queenstown, carried 385 ctls. copper ore. The City of Peking, for Yokohama, this day has 438 bars Richmond lead (60,000 lbs.), valued at $2100."

Salt Lake City receives daily about an average of $10,000 in bullion.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, May 9, 1879.

This has been decidedly the most important week in the history of the mining business on this coast, the sales at the exchanges amounting to about a million and a quarter of dollars; while in San Francisco the business for the week ending April 22d, was but $740,000, and for the week

ending the 29th, $950,000. The business has been almost entirely of a legitimate character. In addition to that reported at the Exchanges there has been a large quantity of stock sold by subscription. Although this is a very good showing, yet it is not nearly as large as we expect to see before the end of the year. Should the practical effects of the passage of the new constitution be as bad as many suppose, a large proportion of the mining-stock business of that coast will be removed to this city.

The San Francisco stocks have been very largely dealt in in this market. Over 5000 shares of Consolidated Virginia stock were sold in this market yesterday, the "points" being well distributed. The total sales of this stock have been for the week 14,513 shares, at $6¾@$9⅝@$7⅞. The sales of California have aggregated 3455 shares, at $7¼@$9@7½. Bodie has received only slight attention, the sales amounting to but 140 shares, at $9½@$10½. In the other San Francisco stocks we notice the following transactions: Grand Prize, 125, at $3.65@$3.50; Independence, 1950, at $2.50@$3; Bechtel, 100, at $1.25; Consolidated Imperial, 1800, at $1.45@$1.65; Leviathan, 550, at 65@70c.; Navajo, 210, at 25@23c.; Tip Top, 350, at 85@80c.; Tuscarora, 5700, at 18@15c.

A great amount of activity has been shown at the New York Stock Exchange. The dealings in Sutro Tunnel amount to 17,911 shares at $4⅜@$4⅞. Standard sold up to $32 on Monday and down to $28 to-day, but recovered to $30⅝ at the close. Mr. D. G. Crowley, Secretary of the Bullion Club, after having gone through the Standard mine, wrote a very encouraging letter, which was read at the club last night. The aggregate of sales of this stock this week is 13,939 shares. Homestake has been in much better demand, the sales amounting to 2250 shares, selling from $30¾ up to $35, and closing at $34½. Ontario has been quiet, the sales only amounting to 193 shares, at $39¾@$39½. Mariposa Preferred sold to the extent of 616 shares, at $8@$7, and the Common stock 1500 shares, at $6½@$7¼. The dealings in Quicksilver Preferred have amounted to 2850 shares, at $37⅝@$42, the latter price having been reached at the close to-day. The Common stock has not been so active; the sales, however, amounted to 1250 shares, at $16@$14½.

In the better class of stocks at the Mining Exchange, Leadville shows the largest transactions, the sales amounting to 11,405 shares, at $2.75@$3.30, closing at that figure, buyer 30. Moose took the second position, the sales aggregating 8150 shares, at $3.95 @$3.40. The dealings in Findley have amounted to 22,000 shares, at 59@65@60c. Hukill has ranged between $2.65 and $2.75, with sales of 325 shares. New York & Colorado has been dealt in to the extent of 700 shares at $1.50@$1.40. Plumas records sales of 1000 shares at $3.55 @$3.65. Of Seaton, 100 shares were sold at 70c. Cleveland sold early in the week at $2, but to-day advanced to $2.25@$2.30, with total sales for the week of 3600 shares. The dealings in Trio amount to 5900 shares, at 60@63.

The "fancies" have joined in the general activity. The sales of Bertha & Edith have amounted to 143,000 shares at 30@41c. Buckeye reached 75c. on Monday and 59c. to-day, with sales of 90,400 shares. American Flag records 2000 shares at 21@20c. The sales of Dahlonega amount to 67,500 shares at 26@30c. Gold Placer has ranged between 26 and 30c., with sales of 24,300. Up to last night, Granville recorded sales of 8000 shares at 20@22c. To-day there was not a transaction—probably the buying or the selling man was not present. Lacrosse records 19,400 shares at 27@30c. In Luzerne the dealings amount to 200 shares at 31c.

Leadville has established a mining exchange, with Lieut.-Gov. Tabor as President and H. C. Swords Secretary.

Caribou stock is being rapidly taken up.

The reports from the Plumas mine, received at the office in this city, are very encouraging.

It is the intention to incorporate the Green Mountain mine under the laws of the State of New York, and a portion of the stock will be offered for subscription. To avoid assessments, a liberal amount of the capital stock will be held in the treasury. The character of the mine, its past history, and the standing of the owners should make a market for the stock.

The promoters of the Dunderberg mine have taken up the balance of the stock which was offered for sale, and they will continue to offer it in small lots at $4 per share. This was done that an organization could be effected. The following trustees have been elected: J. Warren Brown, S. B. Elkins, Charles Dennis, Walter T. Hatch, Thomas Slocum, Charles E. Quincy, Emery Thayer, E. S. Mills, Hiram Dewing, George H. Morrison, and H. H. Duncklee. The officers will probably be appointed to-morrow.

The production of the Ontario mine from April 6th to May 1st was $101,730.50, assay value. The reports are that every thing is looking well in the mine—in fact, that it never looked better. The new shaft is down 620 feet, and a cross-cut to sixth level is being driven. The ore having increased in baseness, the mill is not crushing as much as formerly, but it is proposed to add 20 more stamps. The ore assays $130 to $150, and is being worked up to 90 per cent by the new furnace.

The usual monthly dividend of 50c. per share has been declared by the Ontario Silver Mining Company for April, payable at Wells, Fargo & Co.'s, on the 15th inst. The Standard Consolidated Mining Company has paid its regular monthly dividend of 50c. per share, payable at the agency of the Bank of Nevada, on the 12th inst. The Plumas National Quartz Mining Company announces a monthly dividend (No. 16) of 8 cents per share, payable on the 19th inst.

REVIEW OF THE SAN FRANCISCO MARKET.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS						Opening.
	May 2.	May 3.	May 5.	May 6.	May 7.	May 8.	May 9.
Alpha	18½	18¾	18½	19	.....	17	17
Alta	6⅜	6¼	6	6	.....	5½	5½
Argenta	.....	.....	.....	.....	.....	.....	.....
Bechtel	.....	.....	.....	.....	.....	.....	.....
Belcher	6¼	6⅛	5¾	5⅞	.....	4¾	4¾
Belle Isle	.....	.....	.....	.....	.....	.....	.....
Benton	.....	.....	.....	.....	.....	.....	.....
Best & Bel.	16⅞	17	16¾	16½	.....	15⅞	15
BlackHawk	.....	.....	.....	.....	.....	.....	.....
Bodie	9½	9¼	9½	9½	.....	9	.....
Booker	.....	.....	.....	.....	.....	.....	.....
Bullion	5¼	5¼	5	5⅛	.....	*4¼	4½
Bulwer	.....	.....	.....	.....	.....	.....	.....
Caledonia	.....	1⅞	.....	.....	.....	†1¾	1¼
California	6⅞	7	7	7	.....	7	7
Chollar	6	6¼	6¼	6¼	.....	6	5¾
Confidence	.....	14¼	.....	.....	.....	11¾	.....
Con. Imp	.....	1⅝	.....	.....	.....	1¼	1¼
Con. Pacific	2.25	.....	.....	.....	.....	†2½	2½
Con. Va	6⅝	6¾	7	6⅞	.....	7⅜	7
Crown P'int	5⅜	5⅜	4¾	5	.....	4	4
Endowm'nt	.....	.....	.....	.....	.....	.....	.....
Eureka Con	18	17½	16¼	17½	.....	17	.....
Exchequer	5¼	5⅛	5	5⅛	.....	4½	4½
Goodshaw	.....	.....	.....	.....	.....	.....	.....
Gould &Cur	9½	9⅝	9	9	.....	8	8
Grand Prize	3½	3¼	3⅜	3⅜	.....	3½	.....
Hale & Nor.	12⅜	12¼	12⅛	12½	.....	10¾	11
Hamburg	.....	.....	.....	.....	.....	.....	.....
Homestake	.....	.....	.....	.....	.....	.....	.....
Hussey	.....	.....	.....	.....	.....	.....	.....
Indep'd'nce	.....	.....	.....	.....	.....	†2.90	2.90
Jackson	.....	.....	.....	.....	.....	.....	.....
Julia Con	3⅞	3¾	3¾	3⅞	.....	3¼	3½
Justice	3¾	3⅝	3⅝	3⅝	.....	2⅞	3¼
Kentuck	.....	4⅝	.....	.....	.....	4¼	6½
Kossuth	.....	.....	.....	.....	.....	.....	.....
Leopard	.....	.....	.....	.....	.....	.....	.....
Leviathan	65c.	65c.	.....	.....	.....	70c.	65c
Manhattan	.....	.....	.....	.....	.....	.....	.....
McClinton	.....	.....	.....	.....	.....	.....	.....
MeadowVal	.....	.....	.....	.....	.....	.....	.....
Mexican	36½	36¼	36¾	37	.....	31	29
Mono	.....	.....	.....	.....	.....	.....	.....
Navajo	.....	.....	.....	.....	.....	.....	.....
North. Belle	7½	7	7½	7	.....	7	.....
Ophir	36¾	37	37¾	37½	.....	33¼	31½
Orig. K'ys'e	.....	.....	.....	.....	.....	.....	.....
Overman	9½	9¾	.....	9	.....	7	7½
P. Sheridan	.....	.....	.....	.....	.....	.....	.....
Potosi	3⅞	3⅜	3¾	3¾	.....	†4	3½
Ray. & Ely	3¼	3½	3	3	.....	3¾	.....
Richer	.....	.....	.....	.....	.....	.....	.....
Savage	10¾	11	10¾	11	.....	9⅝	10
Scorpion	.....	.....	.....	.....	.....	2	.....
Seg.Belcher	.....	19	.....	.....	.....	†25	25
Sierra Nev.	51	50	49¼	49½	.....	43¾	45
Silver Hill	.....	1¼	.....	.....	.....	‡1½	1½
Silver King	.....	.....	.....	.....	.....	.....	.....
Summit	.....	.....	.....	.....	.....	.....	.....
Tioga	.....	.....	.....	.....	.....	.....	.....
Tip Top	.....	.....	.....	.....	.....	.....	.....
Union Con	73¾	74	74	72½	.....	65½	67
Utah	.....	15	.....	.....	.....	14	13⅛
Ward	.....	.....	.....	.....	.....	.....	.....
WashoeCon	.....	.....	.....	.....	.....	.....	.....
Wells Fargo	.....	.....	.....	.....	.....	.....	.....
Yel. Jacket	16¼	16	15	15⅜	.....	13⅞	14

* Assessed $1. † Opening. ‡ Opening assessment paid.

It is yet early to predict the effect of the result of the recent election in California on mining stocks. While the list is generally lower than a week ago, yet in the majority of instances prices open to-day at an improvement over those ruling yesterday. A great deal of attention is being given to outside stocks in San Francisco

Alpha is down $2 per share.

Alta is lower. Operations on the joint Benton winze are delayed by a strong flow of water.

Argenta has been very active on the San Francisco market, at from $1.40 to $1.70 per share. The ore stopes in this mine are improving, and over 300 tons are now out ready for milling.

Bechtel has been very active in San Francisco, at from 90c. to $1.10 per share. In the main north drift, on the 300-foot level of this mine, the ledge is 20 inches wide of $40 ore; main shaft down 700 feet.

Belle Isle has been fairly active in San Francisco, at 35@40c. A fair-sized vein has been encountered on the 150 and 250-foot levels of this mine.

Black Hawk has freely changed hands on the San Francisco market, at from $2 to $2.80 per share. Nothing of special importance from the mine.

Bodie opens at a slight decline. Connection has been made between the Bodie mine and the works from the new Standard shaft, through the north drift on the Burgess ledge, and the south drift on the ledge nearest the Standard shaft. This drift is at a depth of 384 feet in the new Standard shaft, and 206 feet in the new Bodie shaft. The north drift is in very rich ore the entire distance of over 300 feet, and is 4½ and 5 feet wide.

Best & Belcher opens at $15, against $16¾ a week ago. The Osbiston shaft is down 540 feet, and making good progress. The drain tunnel is averaging 4½ feet per day.

Bullion opens at $4½, with an assessment of $1 per share. Nothing of special importance from the mine.

The main incline in the Belcher mine is down 125 feet on the slope below the 2660 level. This stock shows a decided decline.

Bulwer has been sparingly dealt in on the San Francisco market, at from $21 to $22 per share. This mine is looking and yielding well.

Caledonia is down to $1¼ per share. No material change in the mine. The O. & C. shaft is down 615 feet.

Confidence is materially lower.

Chollar is somewhat lower, operations principally confined to repairs to the Chollar-Norcross-Savage shaft.

Crown Point opens at $4, against $5⅜ last week. Active work is being done in all parts of this mine.

Consolidated Imperial is fairly steady. Nothing new from the mine.

The old bonanzas are again coming to the front, and last week's prices are firmly sustained. The purchasers of these stocks at present prices can congratulate themselves on the dividends which these companies have announced to pay on the 15th inst., and, at which rate (50c. per share), should they continue for the year, the stock will have cost present purchasers scarcely any thing. It is known that both of these companies now carry a handsome surplus; and, should the present rate of production be maintained, further dividends may reasonably be anticipated. The C. & C. shaft is down 32 feet below the 2350 station.

Consolidated Pacific, a Bodie mine, is selling at $2.10@$2.25 per share. The main shaft in this mine s down 210 feet and in favorable formation. Work in all parts of the mine is being actively pushed under contract.

Eureka Consolidated is fairly sustained. An improvement in the ore-body on the 13th level of this mine is reported.

Exchequer is down $1. Active work is going on in this mine.

Goodshaw has been selling in San Faancisco at 30@80c. Nothing especially encouraging from this mine.

Gould & Curry is lower. The drain tunnel is in about 400 feet, and will soon connect with the shaft.

Grand Prize shows a slight improvement. This company continues its usual shipments of bullion.

Hale & Norcross has declined $1 per share. The water in this mine is now about 70 feet above the 1900-foot station, and slowly rising.

Hamburg has recently sold in San Francisco at 50c. per share. A recent sale of first-class ore has been made to the Richmond Co. from this mine.

Fourth of July, a Eureka mine, will soon begin shipping ore to the Furnace. This stock sells in San Francisco at 35@40c.

Hussey brings 15@20c. in San Francisco. Nothing of special interest noted with reference to the mine.

Independence is steady. The new shaft of this com

GENERAL MINING STOCKS.

Dividend Paying Mines.

NAME AND LOCATION OF COMPANY.		Feet on Vein.	Capital Stock.	SHARES. No.	SHARES. Par Val	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid to date.	DIVIDENDS. Last Dividend.	Rate p. An	HIGHEST AND LOWEST PRICES PER SHARE IN CURRENCY AT WHICH SALES WERE MADE. May 3. H.	May 3. L.	May 5. H.	May 5. L.	May 6. H.	May 6. L.	May 7. H.	May 7. L.	May 8. H.	May 8. L.	May 9. H.	May 9. L.	SALES.
Alps	Nev.	800		30,000		204,000	Aug. 1878 $1 00	37,500	Apr. 1876 $0 65													
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	1,496,200	Feb. 1879 1 00	15,397,200	Apr. 1876 1 00													
Bobtail, G.	Col.	2,500	1,136,630	227,326	5	*		90,930	Nov. 1878 15													
Bobtail Tunnel, G.	Col.		100,000	20,000	5	52,000	July 1873 0 30	56,000	Dec. 1878 40													
Bodie, G.	Cal.		5,000,000	50,000	100	25,000	Feb. 1878 0 50	800,000	Jan. 1879 1 00							9½		10½	10			140
California, G. S.	Nev.	600	54,000,000	540,000	100			30,240,000	Jan. 1879 1 00		7¼		7⅜	7¼	7⅜	7¼	8⅛	7⅜	9	7¾	8	7½	3,455
Calumet & Hecla, C.	Mich		2,000,000	80,000	25	1,200,000		13,850,000	Feb. 1879 5 00		119				179¾		180	179¼				35
Central, C.	Mich		500,000	20,000	25	100,000	June 1862 0 65	1,340,000	Feb. 1879 4 00													
Chollar, G. S.	Nev.	700	11,100,000	112,000	100	1,750,000	Sept. 1878 5 00	3,080,000	Feb. 1872 1 00													
Copper Falls, C.	Mich		1,000,000	20,000	50	535,000	May. 1876	100,000	Nov. 1871 1 00													
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	474,600	June 1873 3 00	40,770,000	Apr. 1879 50		7⅛	6¾	7⅛	6½	7⅝	7⅜	8⅛	7½	9⅜	7	8½	7⅛	14513
Confidence, G. S.	Nev.	130	2,496,000	24,960	100	256,320	Apr. 1878 0 50	78,000	May. 1865 8⅓													
Cons. Her. & Roe	Col.	16,500	1,000,000	100,000	10	*																
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	1,973,370	Dec.. 1878 1 00	11,588,000	Jan.. 1875 2 00													
Daney	Nev.	2,000		108,000		91,800	Nov. 1878 0 20	56,000	July 1863													
Eureka Cons., G. S. L.	Nev.		5,000,000	50,000	100	100,000	May. 1876 1 00	3,650,000	Apr.. 1879 1 00													
Eureka G. Mg., G.	Cal.	1,680	2,000,000	20,000	100			2,140,000	Apr. 1878 0 25													
Findley, G.	Geo.		200,000	200,000	1			6,000	Apr . 1879		61c	59c	60c	59c	61c	59c	65c	62c	62c	61c	60c	22000
Franklin, G.	Mch		500,000	20,000	25	360,000	June 1876 5 00	585,000	Nov. 1871 1 00													
Gila	Ariz			100,000		70,000	Jan. 1879 0 25	50,000	Aug. 1875 0 25													
Gould &Curry, G. S.	Nev.	612	10,800,000	108,000	100	2,936,000	Mar. 1879 1 00	3,826,800	Oct. 1870 10 00													
Grand Prize	Nev.	1.500		100,000		100,000	July. 1878 1 00	400,000	Feb. 1878 1 00		3.65	3.50										125
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	3,082,000	Mar. 1879 1 00	1,598,000	Apr. 1871 5 00													
Homestake, G.	Dak		10,000,000	100,000	100			120,000	Feb.. 1879 30		33½	33	33¼	30¾	33½		34½	33¼	35	34½	34½	2,250
Hukill, G. S.	Col.	3,288	1,000,000	100,000	10	*			Dec. 1878 0 10		2.75	2.65			2.75							325
Independence	Nev.	1,500		100,000		75,000	Feb.. 1878 15	150,000	Nov. 1878 25		2.70	2.50	2.50	..	2.50		2.50		2.75	2.50	3	2.55	1,950
Kentuck, G. S.	Nev.	95	3,000,000	30,000	100	300,000	Aug. 1878 1 00	1,252,000	Mar. 1870 5 00													
K. K. Cons.	Nev.			50,000		30,000	Jan.. 1879 1 00	50,000	Sept. 1872 0 25													
Leadville	Col.		2,000,000			*		20,000			2.90	2.75	3.05	2.90	3	2.90	3	2.90	3	2.90	3.30	2.95	11405
Leeds	Uth.	3,000		60,000				78,000	Oct.. 1878 0 15													
Leopard, L. G. S.	Nev.	1,500	5,000,000	50,000	100	225,000	Mar. 1879 50	162,500	Dec. 1876 0 50													
Manhattan	Nev.			50,000		50,000	Oct.. 1878 1 00	400,000	Feb. 1877 1 00													
Merrimac, S.	Mas.	1,500	500,000	100,000	5	*	June	120,000	Mar.													
Minesota, C.	Mch.		1,000,000	20,000	50	436,000	1869 1 00	1,820,000	Mar. 1876 0 50													
Modoc	Cal.	4,000		100,000		450,000	Feb.. 1879 0 50	50,000	Dec. 1876 0 50													
Moose	Col.	39,000	2,000,000	200,000	10	*		550,000	Mar. 1878 0 25		3.95	3.80	3.80	3.55	3.70	3.50	3.60	3.50	3.55	3.40	3.50	3.40	8,150
National, C.	Mch.		500,000	20,000	25	195,000	Oct.. 1875 1 00	360,000	Oct. 1873 1 00													
N. Y. & Colorado, G.	Col.		1,000,000	50,000	20	*		20,000	Mar. 1877 0 20				1.50	1.45			1.40		1.40		1.40		700
Northern Belle, S.	Nev.	1,600	5,000,000	50,000	100			1,425,000	Feb. 1878 1 00													
Ontario	Uth.	3,000	10,000,000	100,000	100			2,100,000	Apr. 1879 50				39¾				39½		39½		39⅝		193
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	3,436,800	Nov. 1878 1 00	1,394,400	Mar. 1864 4 00													
Pewabic, C.	Mch.		500,000	20,000	25	185,000	June 1868 3 00	460,000	July 1873 1 00													
Potosi, G. S	Nev.	700	11,000,000	112,000	100			$														
Phœnix, C.	Mch.		1,000,000	20,000	50	817,500	Sept. 1870 3 00	10,000	Dec. 1876 1 00													
Plumas	Cal.		1,000,000	100,000	10			130,000	Apr.. 1879 8				3.65	3.55	3.60		3.65	3.60	3.60		3.60		1,000
Quincy, C.	Mch.		200,000	20,000	10			2,230,000	Feb. 1878 5 00		12½		13¼	13									125
Raymond & Ely, G. S.	Nev.	5,000	3,000,000	30,000	100	800,000	Apr.. 1879 1 00	3,075,000	Sept. 1873 3 00													
Ridge, C.	Mch.		500,000	20,000	25	200,000		90,000	Feb. 1875 1 00		1½		1⅝				1⅝						400
Rye Patch	Nev.	1,600		30,000		157,500	Dec.. 1878 1 00	105,000	Dec. 1877 0 25													
St. Joseph, L.	Mo.	2,000 acs.	1,000,000	100,000	10			250,000														
Savage, G. S.	Nev.	800	11,200,000	112,000	100	4,196,500	Feb. 1879 1 00	4,460,000	June 1869 3 00													
Seaton, G. S.	Col.	1,700	500,000	50,000	10	*			May 1877 0 10				70c										100
Sierra Nevada, G. S.	Nev.	3,650	10,000,000	100,000	100	2,550,000	Apr.. 1879 2 00	102,000	Jan. 1871 1 00													
Silver islet	Mch												57		58	56½	57½	57	57				524
Silver King	Ariz	1 500	10,000,000	100,000	100			450,000	Nov. 1878 0 50													
Standard	Cal.		10,000,000	100,000	100	50,000	July 1878 1 00	1,000,000	Apr. 1879 0 50		30⅛	30⅛	32	30¾	31¼	30⅞	31⅛	31⅛	30⅞	30¾	31	28	13939
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	4,038,000	Apr.. 1879 1 00	2,184,000	Aug. 1871 2 50													
McClinton	Cal..	1,000		60,000		45,000	Dec.. 1878 0 25															

Non-Dividend Mines.

Allouez, C.	Mch.		1,000,000	20,000	50	940,000	May 1876 5 00																	
Alpha, G. S.	Nev.	306	3,000,000	30,000	100	240,000	Mar. 1878 1 00																	
Alta	Nev.	600		108,000		1,101,000	Feb. 1879 1 00																	
Am. Flag, G.	Col.	5,300	600,000	60,000	10	*											21c	20c	21c			20c		2,000
Andes	Nev.	2,000		100,000		355,000	Oct 1878 0 25																	
Baltimore Cons.	Nev.	1,050		84,000		1,015,000	Apr. 1878 0 50																	
Benton	Nev.	600		108,000		91,800	Dec. 1878 0 50																	
Bechtel	Cal.			60,000		96,000	Apr.. 1879 0 25									1.25								100
Bertha & Edith, G.	Vir.	645 acs.	500,000	500,000	10	*										33c	30c	34c	31c	35c	31c	40c	35c	41c	37c	41c	35c	143,060
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	639,390	Apr.. 1879 1 00																	
Boyle	Nev.	600		108,000		16,210	Aug. 1878 0 15																	
Buckeye	Col.		2,000,000	400,000	5	*										73c	70c	75c	73c	72c	68c	71c	68c	71c	67c	68c	59c	90,400
Bullion, G. S.	Nev.	943½	10,000,000	100,000	100	3,002,000	Dec. 1878 1 00																	
Caledonia, G. S.	Nev.	2,188	10,000,000	100,000	100	1,640,000	Apr. 1879 0 50																	
Cashier	Col.		500,000	250,000	2	*																		
Challenge	Nev.	90		50,000		10,000	Nov. 1878 0 20																	
Cleveland, G	Col.	3,715	250,000	25,000	10	*														2		2	2.30	2.25	3,600
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	100	875,000	Feb.. 1879 0 20						1.50		1.50	1.45	1.60	1.40	1.65	1.55			1,800
Con. N. Slope & E. T.C.	Col.	15,000	500,000	10,000	50	*																		
Con. Pacific	Cal.	1,400		60,000																				
Dahlonega	Ga.		250,000	250,000	1	*										30c	28c	28c	26c	30c	28c	30c	28c	30c	28c	28c	27c	67,500
Dana, C.	Mch.		500,000	20,000	25	68,000	Jan.. 1863 0 50																	
Dawson, S.	Ont.		1,200,000	60,000	20			1878																
Day	Nev.	1,500		100,000		70,000	Feb.. 1879 0 15																	
Dayton	Nev.	1,600		100,000		750,000	Apr. 1878 0 25																	
De Frees	Ariz	1,500		100,000		115,000	Oct.. 1878 15																	
Duncan, S.	Ont.		1,200,000	60,000	20	75,000	July 1876 41⅔													4⅞		4⅞	4⅜		600
Exchequer, G. S.	Nev.	400	10,000,000	100,000	100	480,000	Feb.. 1879 1 00																	
Gold Placer, G.	Col.		5,000,000	200,000	25											27c	26c	28c	26c	29c	27c	30c	29c	29c	28c	28c		24,300
Granville, G.	N. C.	357 acs.	1,000,000	100,000	10	*										21c	20c	21c	20c	22c	20c	22c	21c	20c				8,000
Humboldt, C.	Mch.		500,000	20,000	25	100,000	Sept 1878 0 15																	
Hussey	Nev.	4,500		100,000		110,000	Jan.. 1879 0 15																	
International, S.	Ont.		1,200,000	60,000	20																			
Julia, G. S.	Nev.	3,000	11,000,000	110,000	100	872,500	Jan. 1879 1 25									70c	65c	85c	75c	85c	80c	75c						5,100
Justice, G. S.	Nev.	2,100	10,500,000	105,000	100	2,763,500	Jan.. 1879 1 00																	
King's Mountain, G.	N. C.		1,200,000	120,000	10	*																		
Kossuth	Nev.	2,700		108,000		421,200	Aug. 1877 0 15																	
Lacrosse	Col.	3,900	1,000,000	100,000	10	*										29c	27c	30c	28c	28c		29c	28c	29c	28c	29c		19,400
Leviathan	Nev.	2,000		100,000		265,000	Mar. 1879 25									65c		70c		70c				60c				550
Luzerne	Col.	4,200	5,000,000	500,000	10	*																		31c				200
Madison, C.	Mch.		500,000	20,000	25	123,000	Sept 1876 0 10																	
Mariposa preferred	Cal.	44,387	5,000,000	50,000	100	1,425,000	June 1877 1 00									7½				8		7¾	7					616
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June 1873 1 00									7	6½	7	6⅛	6¾	6½	7¼	6⅞	7				1,500
McCracken	Ariz	4,500		100,000		100,000	Oct . 1878 0 50																	
Martin White	Nev.			100,000		650,000	Dec. 1878 1 50																	
Mesnard, C.	Mch.		500,000	20,000	25	160,000	Apr. 1878 0 50																	
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	217,400	May. 1878 0 50																	
Minnietta Belle	Cal.	1,500		100,000		75,000	Apr. 1878 0 50																	
Mt. Bross Tunnel	Col.	8,600	2,000,000	200,000	10	*		1878																
Navajo	Nev.	1,500		100,000		145,000	Feb.. 1879 0 20									25c	23c											210
New York	Nev.	1,000		100,000		80,000	Feb.. 1879 0 40																	
Occidental	Nev.	1,706		40,000		72,500	Feb. 1877 0 25																	
Orig. Keystone	Nev.	1,500	1,000,000	100,000	10	100,000	Apr. 1879 0 50																	
Overman, G. S.	Nev.	1,200	3,840,000	38,400	100	3,404,280	Jan.. 1879 3 00																	
Osceola, C.	Mch.		1,000,000	40,000	25	2,567,880	Nov. 1877 3 00									16						15¼						150
Petherick, C.	Mch.		500,000	20,000	100	165,533	Mar. 1876 0 50																	
Pleasant View, G.	Col.	1,200	200,000	20,000	10	*																		
Quicksilver preferred	Cal.	8,500	4,292,300	42,913	100	*										38⅜		38		18⅜	38	38⅜	38¼	39¼	39	42	39½	2,350
" common	Cal.	acres.	5,708,700	57,087	100	*														14½		15⅞	15	16	15	14½		1,250
Rockland, C.	Mch		500,000	20,000	25	495,000	Jan.. 1874 1 00																	
Seg. Belcher, G. S.	Nev.	160	640,000	6,400	100	244,800	Apr. 1876 5 00																	
Silver Hill, G. S.	Nev.	5,400	10,800,000	108,000	100	1,404,000	Apr.. 1879 0 50																	
Silver Prize	Nev.	1,500		100,000		65,000	Feb. 1879 0 25																	
Star, C.	Mch.		500,000	20,000	25	265,000	Mar. 1876 0 50																	
Superior, C	Mch.		500,000	20,000	25	340,000	Mar. 1878 0 25																	
Sutro Tunnel	Nev.		20,000,000	2,000,000	10				0 50							4¾	4⅜	4⅞	4½	4⅞	4½	4¾		4¾	4⅝	4⅞	4⅜	17,911
Tiptop	Ariz			100,000		120,000	July 1878											85c				80c		80c				350
Tioga	Cal.	1,500		100,000		80,000	Apr. 1879 0 20																	
Trio	Col.	1,250	150,000	150,000	1											60c		61c	60c	63c				63c		63c		5,900
Trojan	Nev.	1,500		100,000		265,000	Apr. 1879 0 25																	
Tuscarora	Nev.			100,000		25,000	Mar. 1879 0 05									18c	16c	18c	15c	15c		15c		16c	15c			5,700
Union Cons. G. S.	Nev.		10,500,000	100,000	100	46,000	Apr.. 1879 1 50																	
Utah	Nev.	1,000		20,000		830,000	Apr.. 1879 2 50																	
Ward	Nev	1,200		110,000		99,000	Jan.. 1879 0 30																	
Wells Fargo	Nev.	1,500		108,000		243,000	Apr.. 1879 0 50																	

G. Gold. S. Silver. L. Lead. C. Copper. * Non-Assessable.

Total Assessment levied to date..... ... $65,799,613

Total Dividends paid to date..... ...$154,306,330

Total Sales for the week..... .....486,662.

pany is down over 370 feet, and the mine is producing its regular amount of bullion.

Jackson, a Eureka mine, sells on the San Francisco market at from $6 to $7 per share. This mine is looking well, and the prospects for a regular production in the near future are very favorable.

Julia is lower. The flow of water in this mine is rapidly lessening.

Kentuck, according to the wires, shows an advance of $2¼ over the prices prevailing yesterday.

Justice is now extracting 40 tons of ore per day from the surface shaft, Waller Defeat ground, where a deposit of rich ore from 12 to 14 feet in width has been found, which is shipped to the Pacific mill, which will be started up as soon as a reserve of 2000 tons has accumulated. This stock shows an improvement.

Martin White has improved during the week. This mine is yielding its usual quantity of bullion.

Mexican and Ophir exhibit a decided lessening in prices. There is nothing of special interest from the Mexican mine. On the stopes running south, above the 2200 level of the Ophir mine, the ore-vein is reported very rich, and continues to widen.

Mono has been quite active in San Francisco, at from $2.95 to $3.30 per share. In the east cross-cut, on the 400 level of this mine, it is reported that a good ledge has been cut.

Navajo has been largely dealt in in San Francisco at 15@20c. The ore vein on the 150 and 250 levels of this mine reported as looking and yielding well.

Noonday, a Bodie mine, has sold quite largely at $1.50@$1.90 per share. This company is now producing 45 tons of ore per day, which is being reduced at the syndicate and miners' mill. The ore-body on the north drift 200 level of this mine is reported as fully 3 feet in width and of good quality. A new three-compartment shaft has been started on the line between this mine and the North Noonday.

Northern Belle continues its regular bullion shipments, amounting to over $1000 per day. The stock is unchanged.

Overman is decidedly lower. Nothing of special interest from the mine.

Raymond & Ely shows some improvement. A good bunch of ore is reported as having been struck on the 9th level of this mine.

Richer, a Bodie mine, has been sparingly dealt in in San Francisco at 70@75c. A statement of this company's operations was recently submitted at its annual meeting, as follows:

RECEIPTS.

Working Capital	$10.000.00
Assessment No. 1 (50 cents)	25,000.00
Assessment No. 2 (25 cents, now being collected)	12,026.25
Drafts outstanding	196.55
Total	$47,222.80

EXPENDITURES.

Working expenses for the year	$40,029.73
Cash on hand	7,193.07
Total	$47,222.80

Savage is a little lower. The water is slowly rising in this mine.

The new bonanzas, Sierra Nevada and Union Consolidated, while showing a decline from the prevailing prices of a week ago, yet mark an improvement on yesterday's quotations. The ore in the bottom of the incline in the Sierra Nevada mine is reported very rich by experts who recently visited it; the flow of water in the incline now amounts to 100,000 gallons per day. In the Union Consolidated the most active work is going on.

Yellow Jacket is lower, but shows a slight advance on yesterday's price. The main shaft of this mine is now down over 2470 feet vertical depth, and is progressing at the rate of 4½ feet per day. The company intends to make it the deepest vertical shaft in the whole world. The rock at the bottom is perfectly dry, and is of a character favorable to rapid progress.

Tioga, a Bodie mine, has freely changed hands in San Francisco, at $1.70@$2.70 per share. The ledge on the 320-foot level of this mine is holding its own as regards width, and the ore is improving in quality.

The *Commercial Herald* of the 1st instant says of the market:

"There was some little improvement in the business of mining stock sales during the past week, the aggregate transactions in the San Francisco Board reaching nearly a million dollars. The north end claims on the Comstock received considerable of a lift, which has been principally the means of adding some buoyancy to the market—little as that has been. However, the past dullness has been so marked that the slightest upward breeze is hailed with joy; and a rather forced brightness now hovers over stock circles, which it is hoped will soon be carried forward to a good realization of an active market. With regard to the Sutro Tunnel drain, every effort is made to carry it as rapidly as possible to completion. As for mining sections outside the Comstock, reports are quite favorable, and the present year will undoubtedly show a largely-increased bullion product.

"Union Con., Ophir, and Mexican show a very perceptible advance, though nothing has been made known to the public of a possible bonanza in the near future, which we hope may be the result.

"Announcements of assessments are quite free."

ASSESSMENTS, with dates when delinquent: Raymond & Ely, $1, June 2d; Bodie, $1, May 26th; Wells Fargo, 25c., May 24th; Goodshaw, 10c., May 26th; Original Keystone, 50c., May 25th; Jupiter, 20c., May 26th; Booker Cons., 25c., June 1st; Black Hawk, 25c., June 5th: Brilliant, 25c., May 30th; North Carson, 25c., June 2d; Succor, 50c., May 28th; Sophia Gravel, 2½c., May 26th; North Bonanza, 50c., June 4th.

COAL STOCKS.

NAME OF COMPANY.	Capital Stock.	SHARES. No.	SHARES. Par Val.	Last Dividend. Mo.	Y.	A't.	Rate per Ann.	Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted, so much per share. May 3. H.	May 3. L.	May 5. H.	May 5. L.	May 6. H.	May 6. L.	May 7. H.	May 7. L.	May 8. H.	May 8. L.	May 9. H.	May 9. L.	SALES.
	$		$				Per c'nt													
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	....													
Del. & H. C..	20,000,000	200,000	100	Aug	78	4	9	47⅜	46	47¾	47⅛	47⅜	47¼	47⅜	47⅜	47⅛	47⅛	47⅛	47	7,715
D., L.&W. RR.	26,000,000	524,000	50	July	78	2½	5	53¾	52⅛	54	52⅛	54⅛	53⅛	54⅛	54⅛	54¾	54	54⅜	53⅜	107,817
Lehigh C.& N.	10,148,950	208,971	50	Nov	76	1¾	5½	17½	17⅜	18⅝	17⅛	18¼	18¼	18¼	18¼	18¼	18	18⅛	18¼	4,890
Leh. V'y R. R	27,228,855	540,858	50	Mch	79	1	4	37¼	36¾	37⅛	37⅜	37⅛	37¾	37½	37⅜	37¼	35⅞	36¾	36¼	3,613
Mary'd Coal	4,400,000	44,000	100	Jan.	76	1¾	1¾	....												
N. J. C. R. R.	20,600,000	206,000	100	Apr	76	2½	2½	44⅜	44⅛	45¼	44⅜	45⅜	44⅛	45¼	44¾	45⅜	44⅞	45¼	44⅛	33,338
Penn. Coal...	5,000,000	100,000	50	May	78	3	....													
Penn. R. R...	68,870,200	1,337,404	50	May	79	2	8	37¼	36¾	38	37½	37⅛	37½	37⅜	37¼	37¾	37¼	37⅜	37⅛	65,581
Ph. & R. R. R	34,278,175	685,563	50	Jan	76	2½	10	16¾	16⅜	17⅜	16⅛	17⅛	16⅜	17⅜	16⅜	17½	16¾	17⅛	17⅜	62,622

The Delaware and Hudson Canal Co. has paid in dividends to date $38,821,104, and the Philadelphia and Reading $43,012,497 Total Sales..... 285,576.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in here, at Philadelphia and Baltimore, for the week ending the 9th inst. are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

STOCKS.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
American Coal Co.	$25	.....	.....	22	.....
St.L.,I.M.& S.R.Co..	100	28⅞	24	27½	14,940
Spring Mt. Coal Co.	50	.....	.....	50	.....
*Cambria Iron Co..	50	.....	.....	66	300
*Penn.Salt Mf'g Co.	50	.....	.....	75	16
*Westm'land C. Co.	50	.....	.....	65½	.....
*Buck Mt. Coal Co..	50	.....	.....	40	.....
*Schuyl. Nav. Co...	50	.....	.....		.....
†B.&O.RR.Co.1st pf	.....	.....	.....	108	.....
†B.&O.RR.Co.2d pf	100	101	100	101	5
" " " " com	90	102¾	96	102	651
†George's C'k C. Co	100	.....	.....	55	.....
†S. Clara M'g Co...	100	.....	.....	3½	.....
†Atlantic Coal Co.	10	.....	.....	77	.....

BONDS.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D., L. & W., 7s, conv	1891	J. & D.	.....	.....	.....
" " " " 2d mtge.	1882	M. & S.	.....	.....	.....
N.J.C.,1stmtge.new	1890	F. & A.	116½	116¼	$14,000
" " " 1st mtge.,con	1899	Q.	92¾	90	*1,098,000
" " " convt.....	1902	M. & N.	92¾	91	*73,000
Lehigh & W. B., con	1899	Q.	77	.....	†131,000
Am. Dock & Imp. 7s	.....	J. & J.	70	.....	*5,000
St. L. I.M.& S..1st mt	1892	F. & A.	116	112½	27,000
Ches. & O., 1st mtge	1899	M. & N.	.....	.....	.....
D & H C Co.,1stm.rg	1884	J. & J.	100	.....	30,000
" " " " " " "	1891	J. & J.	100⅝	100⅛	23,000
" " " " m.loan cp	1894	A. & O.	.....	100½	.....
" " " " " " rg.	1894	A. & O.	100	.....	10,000
" " " " new mge.	.....	.....	.....	.....	.....
*L. V. R., 1stm. 6s. cp.	1898	J. & D.	.....	116	.....
" " " " rg.	1898	J. & D.	116	115½	2,000
" " " 2d m. 7s, rg.	1910	M. & S.	119	.....	4,000
" " " con. m. 6s, rg	1823	J. & D.	104¼	.....	51,000
" " " " 6s cp.	1923	J. & D.	105	104¾	5,000
*Pa. RR., 1st m. 6s, cp	1880	J. & J.	105	.....	7,000
" " g. m., 6s, cp.	1910	J. & J.	114	113½	2,000
" " " 6s, rg.	1910	A. & O.	114	.....	1,000
" " con. m. 6s, rg.	1905	Q.	.....	105½	.....
" " " 6s, cp.	1905	J. & D.	106½	.....	2,000
" " new loan, 5s	.....	.....	112¾	112¼	7,100
*P. & R. R., 1st m. 6s, R. C. 43-44.....	1880	J. & J.	104	.....	2,000
P. & R. R., 1st m. 6s, R. C. 48-49.....	1880	J. & J	.....	.....	.....
P. & R. R., 2d m. 7s cp	1893	A. & O.	.....	116	.....
" " " scrip....	1882	J. & J.	65	60¼	11,700
" " " in. m. 7s, cp	1896	J. & D.	61¾	.....	10,000
" " " c. m. 7s, cp.	1911	J. & D.	110	109	7,000
" " " " 7s. rg.	1911	J. & D.	109	.....	4,000
" " " cvt. 7s, R. C	1893	J. & J.	.....	.....	.....
" " C. & I. Co., Deb 7s, R. C.....	1892	M. & S.	50	.....	2,000
& R. C. & I. Co., m. 7s, R. C.....	'92-3	various	.....	.....	.....
*L. Nav. Co., 6s, rg. m.	1884	J. & Q.	.....	105¼	.....
" " RR., rg. m.	1897	F. & Q.	.....	106½	.....
" " cvt. co. G. R.	1894	M. & S.	.....	96½	.....
" " " Gold R. C.	1897	J. & D.	98	97	16,500
" " con. m. 7s, rg.	1911	J. & D.	83	.....	2,000
*P. & N. Y. C., 7s, R. C.	1896 / 1906	J. & D.	119	.....	10,000
*Pa Canal, 6s, cp..	1910	J. & J.	73	72	17,000
*Schuyl. Nav., 1st m. 6s. rg.....	1897	M. & Q.	.....	95	.....
*Sus. Coal, 6s, rg...	1911	J. & J.	94¼	.....	13,000
†Balt. & O. RR., 6s..	1880	J. & J.	102⅝	.....	500
" " " " 6s..	1885	A. & O.	.....	106¼	.....

Total transactions for the week.....$1,587,800

* Assented. † $129,000 assented, selling at from 53¼@ 55½

Gas Stocks.

NEW YORK, Friday Evening, May 9, 1879.

The market for gas stocks at present writing is very dull, and a general reaction has set in, destined to fulfill our predictions of some months back. Mutual (N. Y.) has declined from 77 to 66; Manhattan, 180 to 175; People's, 75 to 70, and the whole list exhibits weakness.

The Commissioner of Public Works of the City of New York has submitted his report for the quarter ended December 31st, 1878, from which we condense the following:

Seventy-two new lamps have been erected, 53 old lamps relighted, and 39 lamps discontinued. The total number of lamps in use, 21,539; an increase of 86 for the quarter. During 1878, 85½ miles of gas mains were laid, making a total of 812 miles on December 31st. The entire expenditures of the bureau of gas lighting for 1878 were $498,801.56, a decrease of $133,774.68 as compared with 1877, and $358,208.04 as compared with 1874, and an increase of 1362 burning lamps over the number in 1874. The Commissioner suggests an increase of 33⅓ per cent in the size of burners on and after May 1st, 1880. On the basis of the present number of lamps and existing rates, the following is the estimated cost of substituting 4-foot burners for 3-foot (now in use) for the whole city (21,539 lamps), $112,670, in addition to the present cost, increasing the consumption 83⅓ per cent, and adding 43⅓ per cent to the amount of light.

The Plainfield, (N. J.) Common Council has suspended lighting street lamps for three months.

The Electric Light at the Pottstown (Pa.) Iron-Works has been working badly of late, and the other night gave out entirely, causing a suspension of work.

The Capitol, at Washington, is to be lighted with the electric light. Arrangements are in progress, and will shortly be completed. It is contemplated to place upon the summit of the dome, a very strong light, with a view of experimenting in regard to lighting extended areas of a city from elevated points.

The New York Mutual Gas Company will hold its annual meeting on the 20th inst.

AUCTION SALES:

Hagerstown (Md.) Gas-Light Co.—65 shares, par $20, at $21.30@$21.50.

Washington (D. C.) Gas-Light Co.—37 shares, at $35,50; and 58 shares scrip, at $21.50.

New York Gas-Light Co.—346 shares, at par.

Williamsburg Gas-Light Co.—$3000 scrip, at 91½ per cent.

Metropolitan Gas-Light Co.—10 shares, at $123 per share.

Coal Stocks.

NEW YORK, Friday Evening, May 9, 1879.

The course of the market for the past week has been to settle down and strengthen. New York stocks have been steady, with total sales considerably less than last week. The Philadelphia market, taken altogether, has been very firm, Pennsylvania RR. Co. selling at an average of $37½ throughout the week. Philadelphia & Reading sold largely, at steadily rising figures; and securities of the company are held firm. Lehigh Valley Railroad stock declined to $35⅞, a drop of 3 per cent. This was attributed to a report circulated to the effect that Judge Packer was dangerously ill, and the fear, should his death follow, of the market being flooded with his stock.

The Pennsylvania RR., in Maryland, has passed under the control of the George's Creek & Cumberland RR. Co., and a reorganization in its interest has been made. The following are the newly-elected directors: Henry Loveridge, J. M. Schley, F. E. Brackett, A. J. Clark, Wilson Beall, M. A. Healey, and F. Haley. M. A. Healey will remain as President of the Company until the completion of the road. Henry Loveridge has been elected Vice-President and Treasurer. This road will reach Cumberland before the 1st of July, and will give that city the advantages of competition between the Baltimore & Ohio RR. and the Pennsylvania RR. It will be the first move toward the recovery of Cumberland's prosperity, which will be fully established upon the completion of the George's Creek & Cumberland RR.

From the Cumberland *News* of April 8th we copy the following:

"As announced, the stock subscription books of the George's Creek & Cumberland Railroad were opened in this city yesterday. The subscriptions were brisk, and $400,000 worth of stock was disposed of, being the amount desired. The stock was taken by sixteen parties, and 10 per cent of the amount subscribed was paid in. The American and Maryland Coal companies each hold $100,000 of the stock, and the remaining $200,000 is held by New England capitalists. A stockholders' meeting will be held in this city June 10th."

The same paper also says: "It is rumored that Mr. James A. Millholland, Second Vice-President of the Cumberland & Pennsylvania Railroad Company, has tendered his resignation, and will shortly retire from that position. We can not give any authoritative news on the point."

Delaware, Lackawanna & Western Company's Leased New Jersey Railroads.—The *American Exchange* says: "Below we give the report of the Morris & Essex Railway Company and of its branches for the years 1877 and 1878, made to the Comptroller of the State of New Jersey. The Chester Railroad extends from Dover, N. J., to Chester, a distance of ten miles, and is leased to the Morris & Essex at an annual rental of 6 per cent on its capital stock, and 7 per cent interest on its debt. The Newark & Bloomfield Railroad extends from Newark Junction to West Bloomfield, four and a half miles, and is leased to the Morris & Essex Company at an annual rental of $6000. These leases were transferred and included in the lease of the Morris & Essex Railway to the Delaware, Lackawanna & Western Company. The capital stocks and debts of the three companies, as reported to the Comptroller of the State of New Jersey on December 31st, 1877 and 1878, were as follows:

MORRIS & ESSEX RAILROAD.

Dec. 31st.	1877.	1878.	Changes.
Capital stock	$15,000,000	$15,000,000	.....
Funded debt	19,746,000	19,923,000	Inc. $177,000
Total stock and bonds	$34,746,000	$34,923,000	.....

CHESTER RAILROAD.

	1877.	1878.	Changes.
Capital stock	$36,596	$36,596	.....
Funded debt	100,000	100,000	.....
Floating debt	84,541	84,541	.....
Total stock and debts	$221,138	$221,138	.....

NEWARK & BLOOMFIELD RAILROAD.

	1877.	1878.	Changes.
Capital stock	$103,850	$103,850	.....
Floating debt	9,948	9,948	.....
Total stock and debt	$113,798	$113,798	.....
Combined totals representing 132 miles of railroads	$35,080,936	$35,257,936	Inc. $177,000

The cost of the different properties is given as follows:

	1877.	1878.	Changes.
Morris & Essex Railroad	$33,795,509	$33,997,955	Inc. $202,446
Morris & Essex Railroad, sundry assets	950,490	925,044	Dec. 25,446
Chester Railroad	221,138	221,138	.....
Newark & Bloomfield Railroad	113,798	113,798	.....
Total cost	$35,080,936	$35,257,936	Inc. $177,000

"It is noteworthy that at the foot of the reports of each one of these companies it is stated that 'the true value of this railroad is less than its cost.'

"The operations of the Newark & Bloomfield and Chester railroads are included in the report of the Morris & Essex, and for the years ended December 31st, 1877 and 1878, as reported to the Comptroller of the State of New Jersey, were as follows:

GROSS EARNINGS.

	1877.	1878.	Changes.
From passengers	$770,494	$800,403	Inc. $29,909
" merchandise	643,903	659,135	Dec. 4,768
" coal	1,729,436	1,076,449	Dec. 652,987
" miscellaneous	224,608	194,129	Dec. 30,478
Total earnings	$3,368,441	$2,710,116	Dec. $658,325

OPERATING EXPENSES.

	1877.	1878.	Changes.
Maintenance of way, etc	$517,321	$433,774	Dec. $83,547
Maintenance of equipment	254,396	274,533	Inc. 20,137
Operating, taxes, etc.	1,374,216	1,219,482	Dec. 154,734
Total expenses	$2,145,933	$1,927,789	Dec. $218,144

	1877.	1878.	Changes.
Net earnings	$1,222,508	$782,327	Dec. $440,181
Rental paid by the Delaware, Lackawanna & Western Company	2,455,328	2,465,718	Inc. 10,390
Deficiency	$1,232,820	$1,683,391	Inc. $450,571

WARREN RAILROAD.

"The Warren Railroad extends from Hampton Junction to Delaware Branch, a distance of eighteen and one quarter miles. It is leased to the Delaware, Lackawanna & Western Railroad Company at an annual rental of 7 per cent on the stock and debts of the company. The financial statements of the company, as reported December 31st, 1877 and 1878, and of its business for those years, were as follows:

	1877.	1878.	Changes.
Capital stock	$1,800,000	$1,800,000	.....
Funded debt	1,350,000	1,350,000	.....
Floating debt	11,353	12,346	Inc. $993
Total	$3,161,353	$3,162,346	Inc. $993

	1877	1878.	Changes.
Gross earnings	$342,737	$303,412	Dec. $39,325
Expenses	119,100	120,274	Inc. 1,174
Net earnings	$223,637	$183,138	Dec. $40,499
Rental paid by Delaware, Lackawana & Western Company.	220,500	220,500	.....
Balance	$3,137	.....	.....
Deficiency	.....	$37,362	Inc. $40,499

RECAPITULATION.

"The losses to the Delaware, Lackawanna & Western Company from the operations of leased railroads in New Jersey for the years named were as follows:

	1877.	1878.	Changes.
Morris & Essex and branches	$1,232,820	$1,683,391	Inc. $450,571
Warren Railroad, profit	3,137	.....	.....
Warren Railroad, loss	.....	37,362	Inc. 40,499
Total losses	$1,229,683	$1,720,753	Inc. $491,070

"In connection with these reports it is of interest to consider the coal traffic of the Delaware, Lackawanna & Western Company for the respective years, because it will be observed that nearly all the loss in the gross earnings of the Morris & Essex in 1878 as compared with 1877, was from the transportation of coal. The total output of coal by the Delaware, Lackawanna & Western Company for the year 1877 was 2,057,524 tons, and in 1878, 2,147,358 tons, showing an increase of 89,834 tons; yet, notwithstanding this increase, the Morris & Essex is credited for transportation of coal with $65?,987 less than it was in 1877. The sales at auction by the Delaware, Lackawanna & Western Company in 1877 amounted to 966,700 tons, at an average for the whole year of $2.70. The sales at auction for the year 1878 were 675,000 tons, at an average of $3.46 per ton, showing an increase in the amount received per ton for the year 1878 of 76 cents. As a basis for an estimate of what the company is doing this year, it may be stated that the output of the Delaware, Lackawanna & Western for the three years from January 1st to Saturday, the nearest to April 26th, was as follows: 1877, 673,637 tons; 1878, 529,858 tons; and in 1879, 978,999 tons. But it should also be stated that the average price at this date in 1878 was about $3.55 a ton, while the average price at the last auction sale by the Delaware, Lackawanna & Western Company was $2.23½. Thus, at these rates, the output for the four months of 1878 realized about $1,850,000, while the output for the four months of 1879, which was 449,000 tons, or about 90 per cent greater than in 1878, realized about $2,150,000; that is to say, allowing the price of 1878 for the quantity of output for that year, the increase of 1879 (449,000 tons) has been sold at about 70 cents a ton."

AUCTION SALES:

Philadelphia & Erie RR. Co.—5 shares, at $9.50 per share.

East Mahanoy RR. Co.—4 shares, at $42 per share.

Joseph Dixon Crucible Co.—20 shares, par $100, at $79½ per share.

The Pennsylvania Coal Co. will hold an election for directors June 10th.

Copper and Silver Stocks.

Reported by WILSON W. FAY & Co., Brokers in Mining and Miscellaneous Stocks, Room 7, Traveller Building, 31 State street.

BOSTON, Thursday Evening, May 8, 1879.

The past week has been quite active, the stocks retaining their strength and advancing in price to figures which they have not touched for some time. The speculative feeling still continues, with no signs of abatement, and promises a lively market on these stocks for the spring and summer.

There is a growing demand for the copper stocks of all kinds, probably caused to some extent by the expectation of a rise in the price of ingot copper through the influence of the war in Chili.

The market generally is very strong, and promises a great deal higher figures.

Calumet & Hecla has advanced to 180, and closes somewhat lower, at 178½@179.

Copper Falls is in demand, assessment unpaid, at 25@30c., and is probably a good purchase.

Franklin has declined somewhat, having sold at 8, and closing rather weak at 7½@8.

Osceola is strong, having sold up to 16, and back to 15¼, and closes firm at 15¼@15½.

Pewabic is quiet at ¾@1.00.

Quincy sold at 13½, having advanced from 12¼, and closes firm at 13@13½.

Ridge has advanced again, and sold at 1⅝, and closes strong at 1½@1⅝.

Duncan sold at 5, and fell off to 4¾, and closes steady at 4⅝@4¾.

International sold up to ⅞; but has reacted to some extent, and closes steady at 65@70c.

Altar is weak, having sold at 1½, and closing at 1¼@1⅜.

Malachite has sold down to ⅝ and up to ¾, and closes steady at ⅝@¾.

Silver Islet is firm, at 57@57½, and sales as high as 58.

DIVIDENDS.

OFFICE OF THE ONTARIO SILVER MINING CO.,
31 BROAD STREET, NEW YORK, May 3, 1879.

DIVIDEND NUMBER 43.—THE REGULAR monthly dividend of FIFTY CENTS per share has been declared for April, payable at the office of the transfer agents, Wells, Fargo & Co., 65 Broadway, on the 15th inst. Transfer-books close on the 10th inst.

H. B. PARSONS,
Assistant Secretary.

OFFICE OF THE PLUMAS QUARTZ MINING COMPANY,

No. 54 BROAD STREET, NEW YORK.

DIVIDEND No. 16.

A dividend of 8 cents per share on the capital stock of the company has this day been declared for month of April, payable on 19th instant. Transfer-books close on the 12th and re-open on the 21st instant. By order of the Board.

HENRY J. ROGERS, Transfer Secretary.

May 2, 1879.

FINANCIAL.

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NOTICE.

RICHARD P. ROTHWELL, MINING ENGINEER and Managing Editor of the ENGINEERING AND MINING JOURNAL, is now making an extended tour through the Mining Regions of the West, including Montana. Until about the 25th of May, his address will be the Walker House, Salt Lake City; but parties desiring his professional services can obtain information at this office, and be put in communication with him by telegraph at any time.

MEETINGS.

NEW YORK, April 15, 1879.

THE ANNUAL MEETING OF THE STOCKholders of the ADLAIDE CONSOLIDATED SILVER MINING & SMELTING COMPANY, OF LEADVILLE, COLO., for the election of Trustees, and such other business as may legally come before the meeting, will be held in accordance with the requirements of the certificate of incorporation, at 12 O'CLOCK, at 611 F Street, in the CITY OF WASHINGTON, D. C., on the SECOND TUESDAY (13th) of May, 1879. Polls open from 12:30 to 2 o'clock. Transfer Books will be closed on Tuesday, April 29th, at 3 P.M., and be re-opened on Thursday, 15th day of May, 1879, at 10 A.M.

By order of Executive Committee.
WM. H. BARNARD, Secretary.

COPP'S U. S. MINING DECISIONS.—Gives in full the Mining Laws of July 26th, 1866; July 9th, 1870, and May 10th, 1872, with all the Circular Instructions and Important Decisions thereunder down to April, 1874. 8vo, law sheep; pages 351. $4.50.
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Cliff Copper Mine
FOR SALE!

THE PROPERTY KNOWN AS THE
CLIFF MINE,
situated in the very center of the Copper-bearing Mineral Range of Keweenaw Point, on Lake Superior, comprising all the
BUILDINGS AND MACHINERY
on said mine, and about
3500 ACRES OF LAND,
on which is the famous "Cliff Vein," is now offered for sale.

The property has a frontage on the Lake Shore of more than two miles, on which are known to be many veins and belts of rock-carrying copper still unexplored, and which future work may prove to be of much value. A large quantity of wood is yet standing, suitable for mine purposes and for fuel.

The machinery—pumping and hoisting engines and stamp mill—is all in good condition.

The mine is opened to the two hundred (200) fathom level, which is connected by a perpendicular shaft with the surface. This level extends about fifteen hundred feet in its opening, from the shaft, and with the exception of forty tons of heavy copper taken from one point, the vein for this length is undisturbed, and no stoping has been done in the back, which must contain considerable heavy copper, from the exposure of mineral in the winzes sunk while opening the ground.

For two years past the mine has been worked by tribute, from the 190 to the surface, by a force of from twenty to forty men, who have made good wages for themselves, and produced satisfactorily for the mine.

The belts of rock that have been so successfully worked in the Central mine, and which are still so profitably productive, have never been mined in the Cliff; but can be easily opened from the levels and shafts of that mine—the territory offered for sale comprising within its boundaries the same geological belts.

☞ For further information, apply to
O. A. FARWELL,
AT THE MINE, or
M. H. SIMPSON,
7½ BEACON STREET, BOSTON.

CHEYENNE GOLD MINING COMPANY
OF BLACK HILLS, DAKOTA TERRITORY.
MINE LOCATED IN THE GREAT MINERAL BELT NEAR DEADWOOD.
ORGANIZED UNDER THE LAWS OF THE STATE OF NEW YORK.
CAPITAL STOCK, $1,000,000. PAR VALUE OF SHARES, $5.
FOREVER UNASSESSABLE.

R. P. CORMACK,.....President | D. B. CANOL..Vice-President and General Manager, Deadwood, D. T.
R. McNAUGHT.....Secretary and Treasurer

This mine is situated in the heart of the Black Hills, and on the acknowledged richest gold belt on this continent, if not in the world.

The improvements on the mine consist of a shaft 36 feet deep, from which a drift has been run 21 feet, all in paying ore. On a level with the orifice of the shaft a drift has been driven 42 feet, with a northeasterly cross-cut 28 feet 7 nches, from where a back stope was run up to the grass roots, giving a breast of 31 feet 10 inches, and 37 feet wide. Eighty-five feet below the adit a tunnel has been commenced and run 66 feet, and will strike the ore-body at present disclosed at the bottom of the shaft 22 feet lower.

From this work 250 tons of ore have been milled as a test, the lowest being $8.40, and highest $25.60. The work thus accomplished shows at the lowest estimate 10,000 tons of ore in sight.

The Directo s have set aside 50,000 shares of stock for the purchase of machinery.

ANNOUNCEMENT.—The 20,000 shares offered at $1 having been all taken, 10,000 shares are now offered at $1.50 per share until further notice. In this connection the Company begs to announce that it has purchased the Hoodlebug Mine, a property adjoining the Cheyenne, and of great proven value.

We respectfully invite the closest scrutiny and most searching investigation into the merits of this property.

R. P. CORMACK, President. **R. McNAUGHT, Secretary,**
Office, 61 Broadway, Room 38, New York.

WANTED,

A SMALL-SIZE SECOND-HAND BLAKE CRUSHER, to run by power. Address Box 3, ENGINEERING & MINING JOURNAL, giving price, etc.

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